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ABSTRACT

The Project for the Evaluation of Noncollegiate Sponsored Instruction (PENSI) was designed to: (1) develop and validate a model for the evaluation of educational and training programs found in business and industry, joint apprenticeships, state agencies, or Comprehensive Employment and Training Act (CETA) facilities; (2) identify counseling procedures for CETA clients; (3) originate articulation policies with affected two- and four-year institutions; and (4) disseminate results. This final project report begins by examining these four components of the project. It then describes the organizations, programs, and courses evaluated, revealing that the major efforts of PENSI were directed toward public agencies including CETA training institutions. The next section of the report explains how the evaluation/articulation model was developed, applied, and modified. The cost effectiveness of the project is evaluated prior to the concluding analysis of the project and its implications. Extensive appendices comprise the bulk of the report, covering career development center counseling procedures; the policies used by the Southern Illinois University/Carbondale School of Technical Careers (STC) to evaluate noncollegiate learning; STC's project evaluation guide, which includes course descriptions; preliminary results of a survey of Illinois colleges regarding noncollegiate credit; credit recommendations for courses; and results of an articulation agreement. (KL)

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ED213449

Final Report

Project for the Evaluation of Noncollegiate Sponsored Instruction

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Southern Illinois University
at Carbondale

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FINAL REPORT

The two-year grant awarded to the School of Technical Careers, Southern Illinois University at Carbondale by the Fund was predicated on the need for greater recognition and articulation between education institutions in the collegiate and noncollegiate (but post-secondary) spheres.

The resulting project, identified as the Project for the Evaluation of Noncollegiate Sponsored Instruction (PENSI), developed and validated an evaluation/articulation model to facilitate greater cooperation between the two spheres. PENSI's specific goals and objectives as well as their implementation and ramifications are treated in this report. This discussion is divided into five major areas: The evaluation/articulation model; a description of the organizations, programs, and courses evaluated; model development, applications, and modifications; cost analysis; and analysis and implications.

THE EVALUATION/ARTICULATION MODEL

The major assumption underpinning PENSI's operation is that training and educational programs in industry, unions, or public agencies often teach skills which parallel those taught in community colleges' vocational-technical divisions. This dual-track approach to education poses a major problem for those students who learn skills but lack the credentials (widely recognized certificates, diplomas, degrees) which attest to their achievement levels.

One method of overcoming that barrier is to devise methods of recognizing and using learning gained in the noncollegiate domain. To that end, PENSI was funded to achieve three major goals: 1) develop and validate the evaluation model; 2) identify counseling procedures for CETA clients; and 3) originate articulation policies with affected two-and-four-year institutions. In addition, project staff were concerned with disseminating results.

The model PENSI developed and validated was designed to meet these objectives. Thus, it has four components - evaluation, counseling, articulation, and dissemination.

Evaluation

The evaluation model used organized teams of experts to conduct evaluations of a number of representative educational or training programs found in business and industry, joint apprenticeships, state agencies, or CETA facilities. The rationale behind the evalutions was to ascertain similarities between college curricula in general and the specific training programs so as to recommend credits to be used for transfer or advanced standing by students of such programs. The evaluators were chosen for their demonstrated expertise in either the subject area of the program being evaluated or their strong credentials in college curriculum/evaluation.

The evaluation segment of the model included four major consecutive components: 1) selection of evaluators; 2) the evaluation framework and materials required for it; 3) the procedures for evaluation; 4) guidelines for making recommendations.

Some elaboration is needed on each:

Selection. The selection of an evaluating team is predicated on its members possessing: a) demonstrated expertise in the subject area to be evaluated, b) a working knowledge of vocational/technical postsecondary curricula and/or evaluation theory, c) personal compatibility with the concept of credit for parallel noncollegiate sponsored instruction.

Materials. A thorough and valid on-site evaluation can be successfully initiated and concluded only if course materials--outlines, objectives, sample examinations, bibliographies and sample transcripts--are made available to the evaluators prior to their visit to the training facility.

Procedure. The team will have already had preliminary insights to the program through digestion of the materials received. During the visit, they examine the facilities and equipment, interview representative faculty and students, and have points clarified and questions answered by the training director or appointed representative.

Recommendations. Before credit can be recommended, the team must respond to a number of questions: Is the program postsecondary? If so, at what level? How do the individual courses or curriculum structure as a whole compare with parallel offerings at a college? After these questions are addressed, the team equates the program's courses by applying criteria such as contact hours and laboratory periods, and converts them into semester hours of credit. After a program is evaluated, credit recommendations are translated into an established format.

The capstone of the evaluation model requires a defined and effective means of translating credentials from an evaluated program into transfer credit or advanced standing at a two-or-four-year college. To implement adoption of the credit recommendations, the PENSI staff has worked directly with college administrations to influence acceptance of the evaluations and promote articulation arrangements. The specific steps taken to meet its goals are described in the articulation section.

Counseling

A major goal of PENSI was to maximize student use of credit recommendations. To that end, and to meet the specific second year objective of the grant, a counseling procedure for CETA students was devised in collaboration with the Career Development Center (CDC) counseling staff. (Included as Appendix A).

The thrust of the recommendation is to ensure student knowledge of their ability to gain advanced standing because of the CDC work completed. A secondary goal of the procedure is to have the counselor help remove barriers for those students who choose to use the procedure. Thus, identifying training programs and sources of financial assistance are included. Although counseling was not pursued specifically with other programs, it was recommended. Because the procedures at CDC have been in effect for such a short time, it is early to judge the impact. Follow-up data will be collected and analyzed.

Articulation

Efforts to establish articulation policies proceeded on several fronts and served as a major dissemination effort.

Career deans from each community college were contacted by mail in January, 1978 informing them of the general goals of PENSI. Follow-up telephone calls to answer questions and provide further information were conducted. Sample articulation policies (see STC 259 Policy in Appendix B) were distributed to each of the career deans.

To further enhance articulation, copies of the Project Evaluation Guide were distributed to registrars at each of the 57 Illinois Community Colleges. (The contents of the PEG are included as Appendix C.) An indication of the success of this effort is provided by the survey conducted in May, 1978, which showed that 35 of the 75 responding institutions awarded credit for learning gained through formal noncollegiate training programs. Twenty of the 31 public community colleges and four of 11 private two-year institutions awarded this kind of credit.

In addition, three of the 13 private four year institutions and eight of the 20 graduate institutions accepted credit, nine used the ACE Guide and five used the PENSI PEG, which seems to indicate the success of PENSI efforts. Since the ACE Guide was distributed beginning in 1974, the use of the PEG, which was first distributed in February, 1978, seems to compare favorably. From another perspective, ten per cent of the institutions adopted PENSI recommendations after only two contacts. (Preliminary survey data are included as Appendix D).

More direct data is provided by the institutions which have indicated in telephone conversation or in writing that they have been developing policies. The institutions which have made such a public commitment include: John A. Logan Community College, Belleville Area College, Rend Lake College, Parkland Community College, Grays Lake Community College, and Rock Valley College.

In short, PENSI efforts during the past two years effectively met the goals of the project. The model has been validated, counseling procedures established, and articulation policies initiated.

Dissemination

An important function of PENSI has been the dissemination of our evaluations throughout Illinois institutions of higher education as well as to other interested parties both within and outside of the state. The main vehicle for this service has been the PEG. Another published record - our "Survey Results . . ." was mailed in September, 1978. Staff has also sought forums at numerous conferences to distribute brochures, maintain booths, and be resource persons on the Project. Such activities have taken place at the A.A.H.E., A.A.C.J.C., I.V.A., F.I.P.S.E. Coordinators Conference, A.A.C.J.C. Labor Center Conference, & Illinois Apprenticeship Training Conference. A number of meetings with numerous agencies in Springfield served as springboards for discussion of the Project's aspects and ramifications.

DESCRIPTION OF ORGANIZATIONS, PROGRAMS, AND COURSES EVALUATED

To test the evaluation model in terms of its widest applicability, four types of post-secondary but noncollegiate learning environments were chosen: CETA training facilities, Illinois state agencies, private corporation's in-house educational divisions, and joint apprenticeship training programs. To these four were added a fifth:

a non-Illinois based vocational training center within a state educational system that was at the post-secondary level, but needed greater articulation between it and the local community college. The types of agencies as well as the programs and numbers of courses evaluated are summarized in Table 1.

Table 1

Programs and Courses Evaluated

According to Type of Organization

Organization	Number	Programs	Courses	Credits
CETA	1	6	21	90
Public Agency	4	5	28	103
Apprenticeship	1	1	15	44
Industry	1	1	16	29
Vocational Center	1	3	16	49
Totals	8	16	96	295

The table numerically details the kind and number of organizational training programs evaluated. In addition, the number of programs and courses considered as well as the credit recommendations are reported. (Appendix E lists specific agencies, programs, courses, and credit recommendations.)

The table shows that the major efforts of PENSI were directed toward public agencies including CETA training institutions. Five of the 8 organizations evaluated fell into this category. About two-thirds (193 of 295) of the credits recommended and half (49 of 96) courses evaluated fell into this group. The three other training programs - an industry, an apprenticeship, and a vocational center program - were used to further demonstrate the validity of the evaluation model and to test modification.

MODEL DEVELOPMENT, APPLICATIONS, AND MODIFICATION

The evaluation of three Career Development Center (CDC) programs provided the initial testing site for the model. Originally, specific CDC curricula were compared with specific School of Technical Careers (STC) programs, with STC programs as the criterion of measurement. After these three evaluations, however, the standard of measurement was changed to the more general concept of curriculum in Illinois community colleges. In short, the standard was the possible rather than any actual curriculum. The strength of the latter approach is that it focuses on the strengths of the program evaluation and maximizes credit recommendations generated rather than taking the posture that, whatever the quality of the program evaluated, the standard is a single existing curriculum.

A major finding of the CDC evaluation is that one commonly held impression of CETA programs deserves further scrutiny.

CETA programs are often considered hastily put together, poorly managed, educationally inferior and decidedly below the post-secondary level. However, in the case of the C.D.C., none of these negative qualities was in evidence. The curriculum had been in operation (with occasional refinements) for at least five years, the faculty and staff had firm credentials in their areas of expertise with a relatively stable rate of turnover, a majority of the students were high school graduates with the remainder enrolled concurrently in a G.E.D. track at the Center, and finally, the evaluation emphasized the point that many of the curricula were indeed at the post-secondary level.

A second major modification of the model, demonstrating again the flexibility of the process, occurred at the Illinois Department of Transportation (IDOT) evaluation.

All of the IDOT courses were of a concentrated, intensive nature lasting from 2 to 4 days in length (approximately 7 hours per day). Despite the high quality of instruction and relevance in applicability, the evaluators had difficulty with the concept of academic credit for so few contact hours. The dilemma was solved by employing the "clustering" principle. Logically assigned headings were given to groupings of courses that either contained common elements or were outgrowths of each other. The separate courses were treated as units within a larger course and thus created a more palatable number of contact hours. Thus, the course headings as they appear in the Project Evaluation Guide (PEG) are in fact the cluster titles devised by the evaluation team.

The last official evaluation of the Project was perhaps the most ambitious undertaking. Three features set it apart from its precursors: 1) it involved a program outside of Illinois; 2) it required familiarity with the dual post-secondary system within Kentucky--that of the community college and the regional vocational center; 3) together with the standard PENSI evaluation and recommendations to be applied between the Region I Vocational Center in Paducah and Paducah Community College. Results of the standard PENSI evaluation are included as part of Appendix C ; however, specific outcomes of the articulation proceedings between the Center and the college are found in Appendix F .

One of the significant outcomes of this final evaluation is that the evaluation operations had moved full-circle in that with both the initial evaluations and last, the standard of measurement was one specific curriculum. An analysis of these different approaches included in the analysis and implications section.

COST EFFECTIVENESS

One of the management goals of PENSI staff was to continually increase the cost-effectiveness of the evaluation operation. The achievement of this goal was assessed by comparing direct cost expenditures for each evaluation during the 1977-78 fiscal year delineating those costs in standard educational terms of credit hours generated. Direct costs include travel, lodging, and per diem for both staff and consultants as well as consulting fees. Table 2 displays these data.

Table 2

Direct Costs and Credit Hour

Expenditure per Evaluation

Agency	Direct Costs	Credit Hours	Cost per Credit Hour
IDOT I	$1,081.50	18	$61
CDC	1,769.84	50	36
Department of Conservation	713.48	18	40
IDOT II	448.48	13	35
Department of Mines	318.25	7	46
Fiat Allis	405.06	29	14
IBEW	680.50	44	16
Fire Marshal I	527.15	55	10
Fire Marshal II	.00	12	0
Paducah Vocational Center	162.50	49	4

Even a cursory examination of the table evidences the decreasing dollar expenditure. Translating those expenditures into costs per credit hour shows an even more dramatic decrease from $61 per credit hour at the November evaluation of the Illinois Department of Transportation to a low of zero at the Office of the Fire Marshal.

Cost savings were effected in a number of ways. Direct staff costs were reduced by decreasing the number of staff members assigned to each evaluation. As a means of understanding and cross checking procedures, both full-time staff members attended the first two evaluations. After that, both staff members attended only the Paducah Vocational Center evaluation which involved a major adaptation of the model and which increased the overall costs by $3.

A second means of reducing costs was reducing the consultant fee. For the initial Department of Transportation evaluation, consultants were reimbursed for one-and-one-half days work. Later consultants were paid for only one work day. In addition to decreasing the amount of time for which consultants were reimbursed, the actual dollar fee was reduced from $100 per day to $75 per day. Neither cost-savings approach affected the quality or the availability of consultants.

A third means of reducing costs was the selection of geographically proximate evaluators and thus reducing travel expenditures. Finally, costs were lessened because either agencies evaluated or the organizations which employed the evaluators assumed some of the expenses. For example, Fiat-Allis assumed travel costs for an out-of-state evaluator; the Office of the Fire Marshal assumed travel and per diem costs for one evaluator and the entire costs of a second evaluation; and International Harvester, the Kentucky Bureau of Vocational Education, and Kentucky's First Highway District all donated the services of an employee.

These reduced costs can be attributed primarily to PENSI's state level operation. Savings derived both from reduced travel and consultant fees and from the co-operative attitude of agencies and industries

ANALYSIS AND IMPLICATIONS

The results of the series of evaluations demonstrated both to the Project staff and the host of experts employed that the programs assessed were of high quality and at least comparable and in some cases perhaps superior to instruction taking place on college campuses.

Thus those involved in the process felt comfortable with the publication and dissemination of credit recommendations. During the passage of these sessions, numerous refinements and adjustments were instituted to make the model particularly responsive to the individual program being evaluated. Now with the completion of all the scheduled evaluations, Project staff has found the model truly workable and adaptable in other instances and locales where evaluation and articulation between non-collegiate post-secondary training programs and mainstream collegiate institutions are both necessary and beneficial. Some suggestions for continued operation are in order.

Each of the three types of evaluation/articulation models available - ACE's centralized national network, PENSI's statewide system, and the bilateral approach - has strengths and weaknesses.

The most obvious advantage of credit recommendations published on a national level is the widespread exposure and the impact of a single evaluation. This kind of evaluation would tend to maximize the credit recommendations per program and thus would be applicable towards a wide range of college offerings. The weakness of such a model would be that it could not respond to variations in programs at the specific institutional or even state level. Therefore, many of its broad and general recommendations may be discounted. An example will further clarify the point: a given student may expect to gain more credits (based on the recommendations) than the individual institution may see fit to award.because the local curriculum varies considerably from the one evaluated by the national group.

The statewide system model retains the advantages of maximum credit recommendations as well as widespread statewide acceptance. Other advantages make this an attractive alternative to the national network model. One benefit is the lower cost per evaluation. Another is the building of an array of supporters, mainly past evaluators who have worked together, know each other's credentials and programs, accept the philosophy of evaluation and articulation of noncollegiate post-secondary programs who can thus speed the acceptance process on their own and other campuses.

The last approach, that of the bilateral model, has the least effect outside the two immediate institutions involved. Because articulation is so specific the credit awards would often be somewhat less than, for example, national blanket recommendations. However, the effect on students directly involved would be optimal since all credit recommendations would directly apply. The bilateral model bears further discussion.

The first component of the bilateral variation is evaluation. In essence it is quite similar to the PENSI model, but there are a few aspects of it that differ markedly. Because we are discussing direct and mutual participation between a given training program and a community college (for example) the evaluating team must consist of members whose reputation and expertise can be respected by both camps. It is especially important that the team not be composed exclusively of academics. A mixture of those with expertise in the subject area - be they from higher education, vocational training, or industry - should be matched with those conversant in post-secondary curriculum design and evaluation. Then recommendations might receive greater acceptance if they stemmed from within the state where mutual contacts, knowledge of state idiosyncracies and politics would make the faculty and administrations involved more apt to render support and cooperation. The costs encumbered by the institutions involved would be minimized. Much of the travel reimbursements would be for distances of less than 150 miles round trip per person; in many instances the one-day evaluation would not necessitate overnight lodgings. Another benefit would be that an evaluating team committed to the objectives of such a project would often act as proselytizers back at their own institutions, in time establishing greater acceptance of the evaluation/articulation concept for more than just the two groups initially involved.

Articulation arrangements for granting credit and advanced placement can lead to an even more important enterprise between both institutions. In time, cooperation could build career ladder mechanisms that would not only help the student plan his(her) entry and eventual passage through a vocation or profession but provide the delivery for such mobility. The different ends and means of a post-secondary vocational program and that of the community college need not be eliminated for articulation to take place. However, greater curriculum coordination, avoidance of duplication, sharing of equipment and facilities, and continual dialogue and planning can make them more effectively serve their students/employees and communities. Students would enjoy a smoother (and a less money-and time-consuming) transition from one to the other. Bilateralism would assure greater consistency in testing and performance requirements. It would also strengthen ties and cooperation between educational institutions and the various industries served.

To further develop the counseling component of bilateral arrangements, input from industry should be sought and encouraged on a regular basis. With consultation and cooperation, the training center, community college and industry can identify those individuals who are most promising or ambitious and inform them of the educational/career options available. Those with talent or inclination for managerial or entrepreneurial positions should have at hand the counseling resources to help prepare for such futures.

The widespread applicability of the evaluation model is the primary implication of what has transpired during the past two years. Some concerns about the continuation of the process, in whatever form, remain.

The primary questions involve the long-term effectiveness of the evaluations conducted. A major impediment to the use of PENSI credit recommendations may be the lack of a continuing dissemination process. With the close of the project, the efforts at arranging acceptance from individual community colleges will end. To overcome this specific difficulty, STC administrative and project staff are negotiating with the American Council on Education (ACE) to request that they print PENSI recommendations in their National Guide, thus assuring continued acceptance. An alternate national dissemination model is also being considered.

A second major question regarding the effectiveness of the program evaluation process relates to student use. An assumption is that student use will vary according to the amount of information they have about the credit recommendations availability and usefulness.

The follow-up study conducted by New York State suggests a relatively wide application of credit recommendations. Eighty-nine percent of respondents who had applied for credit had received it. Questions remain, however, about the use of credit recommendations by previously educationally disenfranchised groups such as CETA clients. If, in fact, CETA students use these credits in large numbers, the process is justifiable and ought to be continued. Answering these questions suggests the need for a continuing research and assessment component, a capability beyond the present project but worthy of consideration elsewhere. Such research needs can be summarized an including:

1) The value of evaluating noncollegiate sponsored instruction as a means of extending access to previously educationaly disenfranchised groups.

2) The differences in effect on differing student groups.

3) Additional assessment of the impact on organizations evaluated and on colleges and universities subsequently involved in articulation arrangements.

4) The fiscal impact of the process. What is the effect of evaluating noncollegiate sponsored instruction on the public sector education budget? What is the fiscal impact on institutions accepting credit? What is the fiscal impact for individuals?

In the course of its two-year existence the Project has demonstrated that evaluation and articulation between various noncollegiate but post-secondary programs and mainstream higher education is desirable and efficable. It is an area that needs further development if the mechanisms for such cooperation are to be more than random. There is general validity to the maxim that education is an ongoing process rather than a finite journey. But it is finally becoming accepted that learning need not be limited and close-ended even if it is in the non-traditional realm.

Appendix A

Career Development Center
Counseling Procedures

Guidelines for Gaining Acceptance of Credit Recommendations Of the Project for the Evaluation of Noncollegiate Sponsored Instruction

1. Obtain a formal certificate of completion or transcript from the agency where you received training.

2. Present the certificate to the registrar or to your advisor at the college or university you wish to attend.

3. Indicate that the credit recommendation reports are available from The Project Evaluation Guide, published by the Project. Registrars or career deans will have copies. Otherwise, credit recommendation reports are available from the Project office.

4. Ask that credit recommendations be granted.

CAREER DEVELOPMENT CENTERS

Counseling Procedures for Students Requesting Information About Attending College

1. Help students define career goals through personal counseling techniques or goal clarification exercises.

2. Identify appropriate training programs by scanning catalogs from SIU/STC and area community colleges.

3. Advise students of the Project for the Evaluation of Noncollegiate Sponsored Instruction's credit recommendations for their training programs. Explain procedures for gaining college credit based on the recommendations. (See attached guidelines and STC 259 policy.)

4. Provide students with a formal CDC certificate of completion (transcript) for use with colleges.

5. Help identify sources of financial assistance and process necessary requests.

Appendix B

STC 259 Policy

Southern Illinois University/Carbondale
School of Technical Careers

Evaluation of Noncollegiate Learning

Basically, there are three types of people who present documents for evaluation of noncollegiate learning (STC 259 credit). These are:

Type 1	Individuals who have completed lengthy formal training in community colleges, technical institutes, private business colleges, hospitals, or similar agencies, which grant the associate degree or the equivalent.
Type 2	Individuals who have established competency by attending military service schools or industry, agency, or union training programs evaluated by the Project for the Evaluation of Noncollegiate Sponsored Instruction or the American Council on Education.
Type 3	Individuals who have attended public or proprietary certificate programs and/or short courses in industry.

One or a combination of these experiences may be evaluated for STC 259 credit.

Type 1 requires minimum documentation and effort. Transcripts from regionally accredited institutions are evaluated by Admissions for both college parallel (general studies) and STC 259 credit. Transcripts from institutions not accredited regionally but which are accredited by bodies recognized by the National Commission on Accrediting or the United States Office of Education and which grant the associate or equivalent degree are evaluated by Admissions with assistance from the major or academic unit. Credit is usually granted on a one-for-one basis.

Type 2 entails more documentation. The individual should provide at least the following:

A. DD214 - Discharge papers. These are used at the time of discharge but are also used at the end of an enlistment period. The specific items to be noted on the DD214 include service time, occupational specialty (military and civilian equivalent), military rank obtained and other training assignments.

B. Proof of Occupational Specialty. This should include a listing of service schools and courses and of contact hours or weeks of instruction. Documents should include certificates of completion of special workshops, seminars, or courses, military orders indicating a change of AFSC, MOS, or Designator; orders indicating a change of rank with copies of evaluation of practical factors; History of Assignments; Military Occupational and Training History; and similar documents.

Type 3 requires complete documentation, and is nearly always handled in combination with work experience (STC 258).

Experiences are evaluated for transferability in the same method as military training; i.e., one semester credit for each 36 clock hours of relevant class instruction or the equivalent. Credit may also be posted for in-service training workshops, institutes, or special training sessions. All possible manner of documents must be submitted.

Judgement concerning the applicability of STC 258/259 credits to a specific program is made by the academic advisor within the department.

Appendix C

Contents of Project Evaluation Guide

PROJECT EVALUATION GUIDE

Project for the Evaluation of
Noncollegiate Sponsored Instruction
School of Technical Careers
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

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Course Evaluations

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FOREWARD

Credentials. Late-twentieth century America is increasingly curious, conscious, and demanding about a person's credentials. Abilities and knowledge -- even if measureable by other means -- lose their luster, even marketability without those perquisite scraps of institutional paper with their accompanying seal, crest or logo. However, too often the value of the official certificate is cheapened if it does not originate from a recognized college or university. Whether the over-credentialization of America is necessary or even fair for that matter, is an issue that at present can only be discussed in abstract terms. Yet the need to change the mechanisms, if not the philosophy, can be addressed. And it has been, in the guise of the Project for the Evaluation of Noncollegiate Instruction of the School of Technical Careers, Southern Illinois University at Carbondale.

The Project operates under the precept that if credentialization is such a necessity in contemporary society, then the worth of given credentials should be weighed solely and officially by factors related to knowledge and skills measureably attained. More specifically, the Project focuses upon the high quality of postsecondary education being advanced by state and federal agencies, labor unions, and businesses outside the collegiate mainstream. Through a process of evaluation of such operations by teams of experts, the program strives to create in regional colleges an atmosphere of acceptance for such agency educational components. This, in turn, is directly translated into credit hours, advanced standing, and the like for any individual who has successfully completed such non-traditional education experiences.

To further aid the process this publication has been devised. Its use by educators and students, by businesses and colleges, by agencies and universities is the hope and intention of its authors.

Arden L. Pratt
Dean, School of Technical Careers
Southern Illinois University at
Carbondale

A Preface: On The Use of the Project Guide

The purpose of the Project Evaluation Guide is to present an ongoing, concise, yet pithy record of evaluations done under the auspices of the Project for the Evaluation of Noncollegiate Sponsored Instruction. The staff has established a format used for the programs of the agencies, businesses, and labor unions that come under the Project's scrutiny -- no matter how great their diversity.

The PEG is arranged alphabetically according to the name of the organization evaluated. Example: "Transportation, Illinois Department of," (under T); "Career Development Center," (under C); "Fire Marshal, Office of the State," (under F). When different units of an agency's educational program are evaluated on different dates, the earliest evaluation will appear first, with the later assessments included afterwards. Within a given program, courses will also be alphabetized.

New evaluations resulting from the continual updating of the PEG will be mailed to those groups or individuals who have received earlier additions of the guide. It is suggested that when these are received they be alphabetized by the recipient according to the agency.

The staff hopes that these resources will prove helpful to both agencies and colleges involved in the articulation process.

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(2) the content of the course was fairly rigid so that it would not require frequent re-evaluation, (3) student performance was evaluated, and, (4) minimum lengths were 30 to 40 hours for residential classes and at least 80 hours for laboratory courses.

THE EVALUATION PROCESS

To evaluate courses, the following suggested criteria and procedures were incorporated into the evaluative process:

Criteria

(1) Courses taught must be judged by the evaluators to be at the college (post-secondary) level.

(2) Participants who so choose should be able to benefit by credit recommendations in receiving transfer credits and/or advanced standing for completion of some or all of the evaluated courses. These credits should be able to be applied towards a degree or certification by the community college, upper division college, or university involved.

(3) Some evaluative mechanisms (be they written test/s, oral examination/s, project/s, quizzes, etc.) of student progress and/or ability should be a regular mainstay during the course's duration. These would lend credence to the depth and breadth of material covered, as well as to the degree of competency or mastery expected of each student.

(4) Instructors should possess appropriate credentials to teach the subject matter.

(5) Official records or transcripts must be kept by the institutions; mechanisms for retrieval and duplication of same should be readily available for legitimate use.

Procedures

In order to apply the general evaluation criteria, the Project staff cooperates with agency staff and evaluators to use the following procedures:

(1) The evaluating team has three members: usually, two are experts in the subject area/s being evaluated while the third may be an educator with expertise in curriculum or evaluation.

(2) Courses or clusters of related skills and knowledge to be evaluated are selected by the Project staff and the agency staff.

(3) The agency staff completes an identification form (included as Appendix A) on each course or cluster and assembles course syllabi, evaluation instruments, sample textbooks, bibliographies and other available instructional materials. The Project staff distributes these materials to the evaluating team.

BACKGROUND

Business and industry as well as government agencies have long provided on-the-job educational programs for employees. These programs, however effective and thorough, have not carried the same credentialing value as college coursework.

Consequently, many people--despite proven skills and competencies--have been thwarted in their professional advancement. The Project for the Evaluation of Noncollegiate Sponsored Instruction helps overcome that barrier.

Supported by federal monies from the Fund for the Improvement of Postsecondary Education, the Project began operating in July, 1976 and has evaluated educational programs offered by public sector agencies--CETA and the Illinois Department of Transportation, for example. In addition, the Project has begun evaluating corporate and union programs offered in the Southern Illinois area.

The evaluation and articulation project was designed to: (1) meet the personal credentializing needs of adult students who have developed post-secondary skills, competencies, and knowledge via formal courses offered by noncollegiate agencies; (2) answer the institutional need for a visible method of articulation between similar programs.

During the initial year, the main thrust was diverted towards assembling evaluating teams to assess designated programs at the Career Development Center at Ordill, Illinois (formerly called the Manpower Skills Center).

The Center--affiliated with the School of Technical Careers of Southern Illinois University at Carbondale--served as the site for the pilot phase of the grant. Initially, three of its CETA programs were assessed: Automotive Repair, Secretarial/Clerical Studies, and Tool and Machine Shop.

The Model--which was developed so as to be applied to SIU-STC's own articulation requirements--made certain assumptions: (1) learning occurs in a variety of settings, (2) learning is valuable regardless of the place it was acquired, (3) courses taught at a non-collegiate agency represented specific competencies, (4) subject matter specialists can relate the skills, competencies, and knowledge required of agency students to that required of students in comparable post-secondary courses or curricula, (5) subject matter specialists can evaluate and express skills learned via the agency's educational component in terms of semester hours of educational credit, (6) expert judgements can be used to recommend advanced standing within the School of Technical Careers courses and/or programs.

Given these assumptions, courses were to be evaluated if: (1) they were fully-staffed and appeared to have a continuing and available job market,

(4) Evaluators conduct the on-site evaluation. This includes an introduction to the overall educational programs of the agency, classroom visits, and interviews with staff and students.

(5) After reviewing all the course materials and after the on-site visits, each evaluating team determines in conjunction with the Project staff if the course is at the college level in regards to: subject matter, quality of instruction, and degrees of difficulty. For courses or course groupings that do fit in this category, the evaluation team should be prepared to verbally recommend the specific number of semester credits, its level in a degree program, and the subject area where it could be placed.

(6) Within seven days, the Project staff summarizes in writing evaluators' comments, suggestions and credit recommendations. These summaries are then distributed to the evaluators for their perusal and reactions.

POST EVALUATIVE ACTIVITY

The Project has developed this bound Program Evaluation Guide to hold evaluations of courses when they are finalized. A standard format has been established. New evaluations are processed then converted into the format and added to the repository.

This volume will be the foundation to which students and institutions can refer to simplify the transfer of cerdit or the advanced standing that the evaluations engender. This advisory service will be continually updated as new evaluations are made or as some re-evaluation becomes necessary.

STRUCTURE OF THE EVALUATION GUIDE

The individual course and cluster evaluations have been presented in a format compatible with its use as a resource for educators. It would be consulted when considering the credentials of present or potential students who have completed formal post-secondary level courses at institutions other than colleges (two- and four-year) and universities. The number of courses evaluated will continue to increase as other agency educational offerings are studied and reviewed.

The structure is quite similar to that devised in the Guide to the Evaluation of Educational Experiences in the Armed Forces. Below the agencies' title will be a brief statement providing general information on its purpose and main aspects of its educational component. Following subdivisions will include:

1. the course title
2. location
3. length of course
4. evaluation date

5. goals
6. course description
7. credit recommendations
8. date the evaluation is effective
9. names of the evaluating team members

An extended definition of each category is in order:

1. Course Title - As officially designated by the agency, project staff and evaluators.

2. Location - The site--be it main center or satellite office--where the instruction takes place.

3. Length of Course - the number of hours, days, or weeks that the course covers.

4. Evaluation Date - The date of the on-site evaluation.

5. Goals - The main intentions of the course.

6. Course Description - The basic (general) content of the course.

7. Credit Recommendations - Suggests how many credits should be carried per course (and/or cluster) as well as whether its level falls within vocational certification range (non-collegiate) or collegiate parameters.

8. Effective Date of Evaluation - The date from which credit can be recommended.

9. Evaluating Team Members - The names of the evaluating team. Academic degrees attained on information on the professional position and institutional affiliation of each member can be found in Appendix B.

THE SCHOOL OF TECHNICAL CAREERS

In closing, some mention should be made of Southern Illinois University's School of Technical Careers.

The School is singular because it is the only university-connected school of its type in the state of Illinois. Based on a solid foundation of a quarter century of experience in career education, STC offers two-year associate degree programs as well as the four-year baccalaureate program.

Approximately 3000 students are enrolled in more than 20 associate programs both on-campus and at military bases. Pre-baccalaureate programs include Allied Health and Public Services, Applied Technologies, Aviation Technologies and Graphic Communications. Students whose career goals are met by existing programs can be helped by STC resources in creating courses of study which answer their particular needs.

CAREER DEVELOPMENT CENTER

Automobile Body Repair

20 hours

INTRODUCTION TO AUTOMOBILE BODY REPAIR

Location:	Career Development Center Ordill, Illinois
Length:	300 hours (7 & 1/2 weeks).
Evaluation Date:	January 24-26, 1978.
Goal:	To introduce students to beginning automobile body repair.

Course Description: Orientation and practice of auto body safety, leading, plastic filler, metal finishing, metal preparation, masking, sanding, priming and painting.

Credit Recommendation: In the lower division certificate level, 6 semester hours in Introduction to Auto Body Repair.

Effective Date of Evaluation: 1973-present.

ADVANCED AUTOMOBILE BODY REPAIR

Location:	Career Development Center Ordill, Illinois
Length:	900 hours (32 & 1/2 weeks).
Evaluation Date:	January 24-26, 1978.
Goal:	To train entry level automobile repair persons.

Course Description: Includes actual practice on cars: painting, repairing rust damage, patching sheet metal, replacing quarter panels and trim, removing and replacing doors, hoods, deck lids and glass.

Credit Recommendation: In the lower division certificate level, 14 semester hours in Advanced Automobile Body Repair.

Effective Date of Evaluation: 1973-present.

CAREER DEVELOPMENT CENTER

Food Service

INTRODUCTORY FOOD PREPARATION

Location:	Career Development Center Ordill, Illinois
Length:	1050 hours (30 weeks)
Evaluation Date:	January 24-26, 1978
Goal:	To introduce students to basic food handling techniques required in the food service industry.

Course Description: Practical experience in the handling of tools, materials and equipment, basic knowledge of the properties and composition of meat, produce, dairy products, and staple groceries; experience in the preparation of entrees, soups, salads and sandwiches.
Credit Recommendation: In the lower division certificate/Associate degree level, 6 semester hours in Introductory Food Preparation.

Effective Date of Evaluation: 1973-present

CAREER DEVELOPMENT CENTER

Industrial Maintenance

[illegible]

AIR CONDITIONING AND REFRIGERANT SYSTEMS

Installation and Maintenance

Location: Career Development Center
Ordill, Illinois

Length: 360 hours minimum (12 weeks).

Evaluation Date: January 24-26, 1978.

Goal: To introduce theory of air conditioning and refrigerant systems and to provide practical repair experience.

Course Description: Installation, maintenance and testing of air conditioning and refrigeration systems, including gas laws, theory of refrigeration, compressors, electrical controls, and components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Air Conditioning and Refrigerant Systems Installation and Maintenance.

Effective Date of Evaluation: 1973-present.

BASIC INDUSTRIAL ELECTRICITY

Location: Career Development Center
Ordill, Illinois

Length: 250 hours minimum (8 weeks).

Evaluation Date: January 24-26, 1978.

Goal: To introduce basic electrical concepts of the nature of electricity with emphasis on industrial applications.

Course Description: A study of electricity from its basic nature through resistine circuits with AC and DC voltage, including capacitine and inductine circuit elements. Emphasis on practical industrial applications.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Basic Industrial Electricity.

Effective Date of Evaluation: 1973-present.

ELECTRICAL GENERATORS AND MOTORS MAINTENANCE AND REPAIR

Location:	Career Development Center Ordill, Illinois
Length:	170 hours minimum (6 weeks).
Evaluation Date:	January 24-26, 1978.
Goal:	To provide the knowledge and skills to operate and maintain electrical generators and motors.

Course Description: Principles and industrial applications of operation and control of single phase and D.C. electrical generators and motors; principles of operation and control of three-phase electrical machines.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Electrical Generators and Motors Maintenance and Repair.

Effective Date of Evaluation: 1973-present.

FURNACE INSTALLATION AND REPAIR

Location:	Career Development Center Ordill, Illinois
Length:	120 hours minimum (4 weeks).
Evaluation Date:	January 24-26, 1978.
Goal:	To provide mechanical knowledge to install and service the basic types of heating systems.

Course Description: Installation and maintenance of heating and ventilation systems, theory of and laboratory experience repairing timers, thermostats, thermocouples, and safety temperature control devices for gas, electrical, and oil heating systems.

Course Recommendation: In the lower division baccalaureate/associate degree or certificate category, 3 semester hours in Furnace Installation Repair.

Effective Date of Evaluation: 1973-present.

PIPING AND PLUMBING FIXTURES

Installation and Repair

Location:	Career Development Center Ordill, Illinois
Length:	90 hours minimum (3 weeks).
Evaluation Date:	January 24-26, 1978.
Goal:	To provide knowledge of and laboratory experience with basic installation and repair of plumbing fixtures and trade safety information.

Course Description: Installation and repair of piping and plumbing fixtures, including trade safety information, ventilation methods, and cleaning sewer lines and traps.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 2 semester hours in Piping and Plumbing Fixtures and Installation and Repair.

Effective Date of Evaluation: 1973-present.

CAREER DEVELOPMENT CENTER

Machine Tool Sequence

TOOL AND MANUFACTURING LABORATORY I

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill, Illinois

Length: 450 hours (18 weeks)

Evaluation Date: March 31-April 1, 1977

Goal: To provide students with a foundation of basic machine tool skills.

Course Description: Fundamental operations performed on basic machine tools including lathe, mill, drill press, grinders, saws, shapers, bench work.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 7 semester hours in Tool Manufacturing Technology Laboratory.

Effective Dtae of Evaluation: September 1972-present

TOOL AND MANUFACTURING LABORATORY II

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill Illinois

Length: 450 hours (18 weeks)

Evaluation Date: March 31-April 1, 1977

Goal: To provide students with advanced skills in operation of machine tools and accessories; a continuation of Tool and Machine Laboratory I.

Course Description: Complex operations on machine tools utilizing accessory tooling, usually on a custom basis, analyzing specifications, and determining tooling by applying knowledge of metal properties, machining, and shop mathematics. (Prerequisite: Tool and Manufacturing Laboratory I.)

Credit Recommendation: In the lower division baccalaureate/associate degree category, 7 semester hours in Tool and Manufacturing Laboratory.

Effective Date of Evaluation: September 1972-present.

THEORY OF MACHINE TOOL OPERATIONS I

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill, Illinois

Length: 90 hours (18 weeks)

Evaluation Date: March 31-April 1, 1977.

Goal: To provide students with a foundation of basic machine tool knowledge.

Course Description: Knowledge of fundamental operation of basic machine tools including radial drill presses, lathes, milling machines, shapers and grinders: emphasis on safety and use of measuring instruments.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Theory of Machine Tool Technology.

Effective Dtae of Evaluation: September 1972-present

THEORY OF MACHINE TOOL OPERATIONS II

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill, Illinois

Length: 90 hours (18 weeks)

Evaluation Date: March 31-April 1, 1977

Goal: To provide students with an in-depth knowledge of machine tools and accessories; a continuation of Theory of Machine Tool Operations.

Course Description: Knowledge of machine tool accessories; knowledge of complex machine tool operations including accessory tooling. (Prerequisite: Theory of Machine Tool Operations I).

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Theory of Machine Tool Technology.

Effective Date of Evaluation: September 1972-present.

TOOL STEEL METALLURGY

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill, Illinois

Length: 30 hours (18 weeks)

Evaluation Date: March 31-April 1, 1977

Goal: To provide students with basic metallurgy

Course Description: Fundamental knowledge and skill needed to select proper tool steel; application of heat treating procedures common to industrial use.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Tool Steel Metallurgy.

Effective Date of Evaluation: September 1972-present

CAREER DEVELOPMENT CENTER

Secretarial Sequence

19 hr. max

BOOKKEEPING

Location:	Career Development Center, School of Technical Careers, Southern Illinois University, Ordill, Illinois.
Length:	135 hours minimum (27 weeks).
Evaluation Date:	April 28-29, 1977.
Goal:	To provide students with a foundation of basic bookkeeping skills.

Course Description: Bookkeeping in its simplest form; the bookkeeping cycle with special journals and subsidiary ledgers; an introduction of automated data processing; an introduction to the combination journal for transactions affecting cash, sales, purchases, and payroll; special bookkeeping transactions for partnerships, corporations, and cooperatives.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Bookkeeping.

Effective Date of Evaluation: 1965-present.

BUSINESS MATHEMATICS

Location:	Career Development Center, School of Technical Careers,
Length:	135 hours minimum (27 weeks).
Evaluation Date:	April 28-29, 1977.
Goal:	To provide knowledge of the fundamentals of business mathematics.

Course Description Arithmetic tools; business documents; payrolls, statistical data and graphs; depreciation; simple interest; time value of money; mathematics of compounding.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Mathematics.

Effective Date of Evaluation: 1965-present.

SHORTHAND (Gregg)

Location: Career Development Center, School of Technical Careers
Southern Illinois University, Ordill, Illinois

Length: 270 hours (36 week0)

Evaluation Date: April 28-29, 1977

Goal: To provide students with basic shorthand skills

Course Description: Demonstration of shorthand proficiency by reading and writing outlines and taking dictation at no less than 80 words per minute.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Gregg Shorthand.

Effective Date of Evaluation: 1965-present

SHORTHAND (Stenoscript)

Location: Career Development Center, School of Technical Careers
Southern Illinois Univresity, Ordill, Illinois

Length: 270 hours (36 weeks)

Evaluation Date: April 28-29, 1977

Goal: To provide students with basic shorthand skills

Course Description: Demonstration of shorthand proficiency by reading and writing outlines and taking dictation at no less than 80 words per minute

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Stenoscript shorthand.

Effective Date of Evaluation: 1965-present

OFFICE PRACTICE

Location: Career Development Center, School of Technical Careers, Southern Illinois University, Ordill, Illinois.

Length: 135 hours (9 weeks).

Evaluation Date: April 28-29, 1977.

Goal: To provide students with a basic knowledge of general office procedures.

Course Description: Grooming; handling telephone situations: handling incoming and outgoing mail; filing; use of office machines and duplicating.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Office Practice.

Effective Date of Evaluation: 1965-present.

TYPING, BASIC

Location: Career Development Center, School of Technical Careers, Southern Illinois University, Ordill, Illinois.

Length: 360 hours (36 weeks).

Evaluation Date: April 28-29, 1977.

Goal: To provide students with basic typing skills.

Course Description: Proper touch typing techniques; manipulation of machine parts; determine margins for and type basic business communications; type at 30 wpm.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in typewriting for persons typing at least 30 wpm.

Effective Date of Evaluation: 1965-present.

CAREER DEVELOPMENT CENTER

Welding

OXYACETYLENE WELDING AND CUTTING

Location: Career Development Center
Ordill, Illinois

Length: 360 hours (12 weeks).

Evaluation Date: January 24-26, 1978.

Goal: To enable the student to use and maintain Oxyacetylene welding equipment and to weld basic joints.

Course Description: Basic theory and practice in ocyacetylene welding and cutting; instruction on safety, selection and preparation of equipment and materials, practice in welding basic joints of mild steel in all positions; use of brazing materials to join and surface sheet iron, cast iron and steel.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Oxyacetylene Welding and Cutting.

Effective Date of Evaluation: 1973-present.

SHIELDED METAL ARC WELDING AND AIR-CARBON CUTTING

Location: Career Development Center
Ordill, Illinois

Length: 480 hours (16 weeks).

Evaluation Date: January 24-26, 1978.

Goal: To introduce students to basic shielded arc welding and carbon arc welding cutting processes.

Course Description: Theory and practice of shielded metal arc welding and air-carbon arc cutting processes; proper procedures for preparing and operating a welding machine safely; selection of electrodes; preparation of joint designs and applications to welds in all positions on various thickness of steel plate; effects of heat on metals.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Shielded Metal Arc Welding and Air-Carbon Arc Cutting.

Effective Date of Evaluation: 1973-present.

CONSERVATION, ILLINOIS DEPARTMENT OF
LAW ENFORCEMENT PROGRAM

ADMINISTRATION OF CRIMINAL JUSTICE with DEPARTMENT OF CONSERVATION and DIVISION OF LAW ENFORCEMENT

Location:	Illinois Department of Conservation Police Training Headquarters Springfield, Illinois
Length:	40 hours
Evaluation Date:	March 9, 1978
Goal:	To provide an introduction to and background knowledge in the law enforcement systems that are within the purview of the Department of Conservation police officer.

Course Description: Criminal justice systems in our democratic society including law enforcement police and prosecution officials, courts and corrections. Police ethics, responsibility, and discretion; organization and history of Dept. of Conservation law enforcement programs, rules and regulations, and records are studied.

Credit Recommendation: In the lower division baccalaureate/associate degree category; 1 semester hour in Administration of Criminal Justice with Department of Conservation and Division of Law Enforcement.

Effective Date of Evaluation: December 1974-present.

EMERGENCY FIRST AID

Location:	Illinois Department of Conservation Police Training Headquarters Springfield, Illinois
Length:	20 hours
Evaluation Date:	March 9, 1978
Goal:	To enable an officer to provide effective and immediate first aid regardless of the site, and to master methods, and procedures of artificial ventilation and artifical circulation necessary to provide emergency treatment to victims of heart attack.

Course Description: A practical discussion and presentation of emergency medical aid to the injured including breathing, bleeding, poisons, resuscitation, emergency childbirth shock, bandaging, and major traumatic injuries. Cardio-pulmonary (CPR) resuscitation course includes a practicum in which student must become proficient in CPR techniques.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Health of First Aid or Cardio-pulmonary Resuscitation (General Studies Division).

Effective Date of Evaluation: December 1974-present.

FIELD TRAINING

Location: Illinois Department of Conservation Police Training Headquarters
Springfield,

Length: 590-700 hours (14-18 weeks)

Evaluation Date: March 9, 1978

Goal: To introduce conservation police officers to the varied work environments within their purview.

Course Description: In different state conservation districts, state parks, water areas, various management and patrol techniques are mastered for both normal daily and exceptional or emergency situations.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 4-6 semester hours in Internship or In-Service Training.

Effective Date of Evaluation: December 1974-present.

HUMAN RELATIONS FOR POLICE

Location: Illinois Department of Conservation Police Training Headquarters
Springfield, Illinois

Length: 22 hours

Evaluation Date: March 9, 1978

Goal: To acquaint officers with principles in human behavior especially in areas that bear directly on performance of job's duties.

Course Description: Social psychology pertaining to law enforcement officers is studied. Recognition and handling of abnormal behavior; dealing with youthful offenders, human and public relations, and self-understanding taught. Social problems such as motivation in mob and riot participation and crime causation are studied.

Credit Recommendation: In the lower division baccalaureate/associate degree category 1 semester hour in Human Relations as an elective.

Effective Date of Evaluation: December 1974-present.

INVESTIGATIONS

Location: Illinois Department of Conservation Police Training Headquarters
Springfield, Illinois

Length: 60 hours

Evaluation Date: March 9, 1978

Goal: To provide familiarization and mastery of investigatory principles and procedures, as well as pertinent bodies of knowledge that can competently be incorporated through all facets of the investigatory process from on-site investigations to final report writing.

Course Description: Incorporates methods, procedures, and techniques in investigations including investigative process principles, interviews and interrogations, specialized investigations, physical evidence, laboratory techniques, court testimony, report writing, investigative jurisdiction, water pollution, animal nuisance and fingerprinting techniques and procedures.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Investigations.

Effective Date of Evaluation: December 1974-present.

LEGAL SUBJECTS

Location: Illinois Department of Conservation Police Training Headquarters
Springfield, Illinois

Length: 73 hours

Evaluation Date: March 9, 1978

Goal: To provide officers with a legal background needed to perform their duties.

Course Description: Covers legal language; legal jurisdiction; Illinois Criminal Code; Juvenile Court Act; laws of arrest, search and seizure; the Illinois Vehicle Code; Boat Registration and Safety Act; Snowmobile Registration and Safety Act; and Illinois Revised Statutes.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Substantive Law.

Effective Date of Evaluation: December 1974-present.

PATROL PROCEDURES

Location:	Illinois Department of Conservation Police Training Headquarters Springfield, Illinois
Length:	88 hours
Evaluation Date:	March 9, 1978
Goal:	To familiarize students with knowledge, laws, and techniques used in patrol practices, traffic control, and boating practices.

Course Description: Practices and techniques of patrol including those specific to wildlife law enforcement, search and rescue operations. Automotive traffic component covers auto law enforcement, accident investigation, traffic direction. Boating area covers safety inspection, accident notification, laws, enforcement techniques.

Credit Recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Patrol Procedures.

Effective Date of Evaluation: December 1974-present.

FIAT ALLIS TRAINING CENTER

[illegible] 29

DIESEL ENGINE RECONDITIONING

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 106 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing of diesel engines.

Course Description: Theory and skill development including diagnosis, reconditioning, and testing of four-stroke cycle, direct injection diesel engines.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Diesel Engine Reconditioning.

Effective Date of Evaluation: September 1973-present.

DIESEL FUEL INJECTION

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 109 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing of diesel fuel injection systems.

Course Description: Theory and skill development including diagnosis, reconditioning, and calibration of Robert Bosch, Simms, and Roosa Master fuel injection pumps and system components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Diesel Fuel Injection.

Effective Date of Evaluation: September 1973-present.

ENGINE SYSTEMS PROBLEM DIAGNOSIS

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in diagnosing, reconditioning, and testing of engine systems problems.

Course Description: Learn and apply an organized procedure for diagnosing air, lubrication, combustion, fuel and cooling systems problems.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Engine Systems Problem Diagnosis.

Effective Date of Evaluation: September 1973-present.

HEAVY EQUIPMENT DIAGNOSTIC TECHNIQUES

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	70 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in problem diagnosis.

Course Description: Learn and apply an organized procedure for diagnosing problems of engine, transmission, and hydraulic systems.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate level, 2 semester hours in Heavy Equipment Diagnostic Techniques.

Effective Date of Evaluation: September 1973-present.

COUNTERSHAFT TRANSMISSIONS

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 35 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing countershaft transmissions.

Course Description: Theory and skill development including diagnosis, reconditioning, and testing of countershaft transmission, rotating and stationary housing torgue converters, and hydraulic control systems.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Countershaft Transmissions.

Effective Date of Evaluation: September 1973-present.

CRAWLER AND WHEEL LOADER HYDRAULIC SYSTEMS AND COMPONENTS

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 35 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing hydraulic systems and components.

Course Description: Theory and skill development including diagnosis, appropriate reconditioning and testing of crawler tractor and wheel loader hydraulic systems and components (exluding transmission hydraulics).

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Crawler and Wheel Loader Hydraulic Systems and Components.

Effective Date of Evaluation: September 1973-present.

DIESEL FUEL INJECTION (ROBERT BOSCH)

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 37 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing diesel fuel injection systems.

Course Description: Theory and skill development including diagnosis, reconditioning, and calibration of Robert Bosch fuel injection pumps and systems components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Diesel Fuel Injection (Robert Bosch).

Effective Date of Evaluation: September 1973-present.

DIESEL FUEL INJECTION (SIMMS AND ROOSA MASTER)

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 37 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing diesel fuel injection systems.

Course Description: Theory and skill development including diagnosis, reconditioning, and calibration of Simms and Roosa Master fuel injection pumps and systems components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Diesel Fuel Injection (Simms and Roosa Master).

Effective Date of Evaluation: September 1973-present.

NATURALLY ASPIRATED DIESEL ENGINE RECONDITIONING

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in diagnosing, reconditioning, and testing naturally aspirated diesel engines.

Course Description: Theory and skill development including diagnosis, reconditioning, and testing of four-stroke cycle, naturally aspirated diesel engines.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Naturally Aspirated Diesel Engine Reconditioning.

Effective Date of Evaluation: September 1973-present.

POWER TRANSMISSIONS

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	106 1/2 hours.
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in diagnosing, reconditioning, and testing of transmission systems.

Course Description: Theory and skill development including diagnosis, reconditioning, and testing of countershaft and planetary transmissions, rotating and stationary housing torgue converters, and hydraulic control systems.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Power Transmissions.

Effective Date of Evaluation: September 1973-present.

PARTS FAILURE ANALYSIS

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 35 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in failure analysis.

Course Description: Analysis of parts failures in heavy equipment components including manufacturing defects, metallurgy, and improper maintenance, operation or application.

Credit Recommendation: In the upper division baccalaureate/graduate degree category, 1 semester hour in Heavy Equipment Parts Failure Analysis.

Effective Date of Evaluation: September 1973-present.

HYDRAULIC FUNDAMENTALS, SYSTEMS, AND COMPONENTS

Location: Fiat Allis Training Center
Springfield, Illinois

Length: 106 1/2 hours

Evaluation Date: April 25, 1978

Goal: To introduce theory and develop skills in diagnosing, reconditioning, and testing of hydraulic systems and components.

Course Description: Theory and skill development including diagnosis, appropriate reconditioning, and testing of hydraulic systems and components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 4 semester hours in Hydraulic Fundamentals, Systems, and Components.

Effective Date of Evaluation: September 1973-present.

SCRAPERS AND BRADERS HYDRAULIC SYSTEMS AND COMPONENTS

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in diagnosing, reconditioning, and testing hydraulic systems and components.

Course Description: Theory and skill development including diagnosis, appropriate reconditioning, and testing of scraper and grader hydraulic systems and components.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Scrapers and Graders Hydraulic Systems and Components.

Effective Date of Evaluation: September 1973-present.

TRANSMISSION, HYDRAULIC, AND STEERING SYSTEMS PROBLEM DIAGNOSIS

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in problem diagnosis.

Course Description: Learn and apply an organized procedure for diagnosing transmission, hydraulic, and steering systems problems.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Transmission, Hydraulic, and Steering Systems Problem Diagnosis.

Effective Date of Evaluation: September 1973-present.

TURBOCHARGE DIESEL ENGINE RECONDITIONING

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills for reconditioning turbocharge diesel engines.

Course Description: Theory and skill development including diagnosis, reconditioning and testing of four-stroke cycle, turbocharge diesel engines.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Turbocharge Diesel Engine Reconditioning.

Effective Date of Evaluation: September 1973-present.

WHEEL VEHICLE TRANSMISSIONS

Location:	Fiat Allis Training Center Springfield, Illinois
Length:	35 1/2 hours
Evaluation Date:	April 25, 1978
Goal:	To introduce theory and develop skills in diagnosing, reconditioning, and testing of wheel vehicle transmissions.

Course Description: Theory and skill development including diagnosis, reconditioning, and testing of countershaft and planetary transmissions, rotating housing torgue converters and hydraulic control systems in wheel vehicles.

Credit Recommendation: In the lower division baccalaureate/associate degree or certificate category, 1 semester hour in Wheel Vehicle Transmissions.

Effective Date of Evaluation: September 1973-present.

JOINT APPRENTICESHIP TRAINING COMMITTEE
FOR THE ELECTRICAL INDUSTRY
International Brotherhood of Electrical Workers
Local 702 - National Electrical Contractors Association

(I.B.E.W. Local 702)

Max 49

ALTERNATING CURRENT CIRCUITS I

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of alternating current circuits at a simple introductory level.

Course Description: Introduces student to basic alternating current behavior in relationship to impedance, phase shift, coupling networks, and transformers using fundamental laws and theorems for network analysis. Measuring techniques for A/C currents are covered. Given during the second year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

ALTERNATING CURRENT CIRCUITS II

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of alternating current circuit at a more complex, advanced level.

Course Description: In depth study of resistance-capacity and resistance-inductive circuits and A/C circuits as well as luminous systems. Given during the second year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

BASIC STATIC CONTROL

Location: J.A.T.C for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable apprentice to be familiar with the vocabulary, basic theory, and techniques; to have him (her) understand practical application of basic static control.

Course Description: Introduces student to basic concepts and utilization of static controls, static logic circuits, application and circuit analysis of this control system. Given during the fourth year of apprenticeship.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

BLUEPRINT READING (ARCHITECTURAL)

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 18 hours (6 classroom, 12 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable apprentice to be familiar with the vocabulary, basic theory and techniques; to have him (her) understand the practical application of architectural blueprint reading. This course is integrated throughout the four years of the program.

Course Description: Course includes fundamental blueprint reading related to residential and commercial facilities.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 1 semester hour is recommended. In effect at the completion of the entire 4-year apprenticeship program.

Effective Date of Evaluation: July 1972-present.

COMMERCIAL ELECTRICAL WIRING

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical applications of commercial electrical wiring.

Course Description: Detailed and comprehensive coverage of state and national electrical codes as pertaining to commercial and residential dwellings. Includes special student projects. Given during the second year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

CONSTRUCTION SAFETY AND O.S.H.A. CODES

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 36 hours (12 classroom, 24 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary, basic theory, regulations, and techniques; to have him (her) understand the practical application of construction safety and O.S.H.A. code familiarity.

Course Description: Provides an overview of modern safety techniques and fundamentals of accident prevention and loss control. Review of federal and state O.S.H.A. (Occupational Safety and Health Administration) regulations, hazard detection and control, safety procedures and evaluations. The course is integrated throughout the 4 years of the program

Credit Recommendation: In the lower division baccalaureate/associate degree level, 2 semester hours are recommended. In effect at the completion of entire 4-year program.

Effective Date of Evaluation: July 1972-present.

DIRECT AND ALTERNATING CURRENT MACHINES

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of D/C and A/C machines.

Course Description: Review of electromagnetic induction followed by DC and AC motors and generators, single phase and polyphase machines, and transformers. Given during the third year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

ELECTRICAL CONTROLS

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 108 hours (36 classroom, 72 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of electrical controls.

Course Description: Introduction to electrical controls associated with plant machinery including switches, pilot lights, relays, latching and time relays and solenoids. Includes motor starting systems and circuit protection; also related blueprint analysis and trouble shooting. Given during the third year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 6 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

ELECTRICAL WIRING INSTALLATION TECHNIQUES (RESIDENTIAL)

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of electrical wiring installation techniques in residential settings.

Course Description: Consists of a study of national, state, and local electrical codes, installation techniques, and basic trouble shooting procedures. Taken during the first year of apprenticeship.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

INTRODUCTION TO DIRECT CURRENTS

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of direct currents.

Course Description: Introduces student to direct current flow, voltage, and resistive circuits and measuring techniques. Mathematical systems used to analyze and determine circuit reactions to direct current. Course includes a study of components, magnetism, inductance and capacitance. Given during the first year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

INTRODUCTION TO ELECTRICITY/ELECTRONICS

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of electricity and electronics.

Course Description: Introductory course provides a systems approach to electricity/electronics. Includes vocabulary and definitions of simple circuits and components. Includes an overview of electricity/electronics field at the fundamental level. Also covers basic construction, blueprint reading, and codes. Given during the first year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

RESIDENTIAL DESIGN

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 18 hours (6 classroom, 12 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary, basic theory, and techniques; to have him (her) understand the practical application of residential design.

Course Description: Covers elementary construction drawings, symbols; general overview of factors such as electrical, gas, water, sewage, heating and air conditioning systems. This course is integrated throughout the four years of the program.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 1 semester hour is recommended. In effect at the completion of entire 4-year program.

Effective Date of Evaluation: July 1972-present.

SEMI-CONDUCTOR FUNDAMENTALS

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable the apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of the semi-conductor devices.

Course Description: Theory and operation of semi-conductor devices, diodes, transistors, power supplies and amplifiers. Given in the fourth year of apprenticeship.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

SOLID STATE DEVICES

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA
West Frankfort, IL

Length: 54 hours (18 classroom, 36 shop-site lab work)

Evaluation Date: May 9, 1978

Goal: To enable apprentice to be familiar with the vocabulary and basic theory; to have him (her) understand practical application of solid state devices. Given in the fourth year of apprenticeship.

Course Description: Applications of discrete and integrated solid state devices such as basic commercial instrumentation circuits, logic and digital circuits.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 3 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

WELDING - FUNDAMENTALS AND INDUSTRIAL PRINCIPLES

Location: J.A.T.C. for the Electrical Industry (I.B.E.W. Local 702-NECA)
West Frankfort, IL

Length: 80 hours

Evaluation Date: May 9, 1978

Goal To enable apprentice to be familiar with the vocabulary, basic theory and techniques; to have him (her) understand practical application of fundamentals and principles of industrial welding. Designed by John A. Logan and J.A.T.C. specifically for apprentices.

Course Description: Introduces student to basic combination welding dealing with oxyacetylene and arc welding. Study of automatic, semi-automatic and manual welding processes, their operation, power sources, maintenance and safety precautions. Introduction to TIG and MIG.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 4 semester hours are recommended.

Effective Date of Evaluation: July 1972-present.

TRANSPORTATION, ILLINOIS DEPARTMENT OF

Specific Task Training Program

CONSTRUCTION MATERIALS

Location: Illinois Department of Transportation
2300 Dirksen Memorial Drive
Springfield, Ill. 62764

Length: 68 hours (8 & ½ days)

Evaluation Date: October 31-November 1, 1977

Goal: To prepare students to perform or supervise the performance of the plant and field inspection of materials used in highway construction.

Course Description: Familiarizes student with basic soil types and determination of density of embankments. Student shown procedures for determining proper bituminous and concrete mixtures for highway projects. Course contains instruction in testing moisture content and gradation of aggregate materials for bituminous and concrete mixes. Course covers sampling and testing procedures used during mixing process and after pavement is in place. Students learn function and use of admixtures for concrete, adjustment of concrete mixes when testing show variation from specifications, calculation of yield and preparation of reports.

Credit Recommendation: Three (3) semester hours at the lower division associate/baccalaureate degree level in Construction Materials.

Effective Date of Evaluation: September 1972-present

CONCRETE STRUCTURES

Location: Illinois Department of Transportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 68 hours (8 & ½ days)

Evaluation Date: October 31-November 1, 1977

Goal: To prepare student to inspect and supervise the construction of concrete structures.

Course Description: Students informed of procedures for proper construction of earthen embankment and excavation associated with concrete structures construction. Student familiarized with types of piling and procedures for their placement, and also covers placement of enforcement and testing, placement, finishing and curing of concrete. Joints and connection slopewalls and riprapping, handrails and waterproofing, and the measurement and calculation of pay quantities also covered.

Credit Recommendation: Three (3) semester hours at the lower division associate/baccalaureate degree level in Concrete Structure.

Effective Date of Evaluation: September 1972-present

CONSTRUCTION SURVEYING

Location: Illinois Department of TRansportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 96 hours (12 days)

Evaluation Date: October 31-November 1, 1977

Goal: To prepare student to particiapte in all phases of surveying for highway projects.

Course Description: Familiarizes students with basic surveying equipment and instructs them in the use of these instruments to measure horizontal distances and angles, to determine elevation. All phases of construction layout covered including calculation of horizontal and vertical curves and calculations for and placement of slope stakes and paving stakes. More complex portion of course prepares student to cross-section borrow pits, to stake pipe culverts and storm sewers and to layout and provide construction control of complex intersections, interchanges and bridges.

Credit Recommendation: Four (4) semester hours at the lower division associate/ baccalaureate level in Construction Surveying

Effective Date of Evaluation: September 1972-present

HIGHWAY DRAINAGE FACILITIES

Location: Illinois Department of TRansportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 68 hours (8 & ½ days)

Evaluation Date: October 31-November 1, 1977

Goal: Prepares student to design and inspect a storm sewer system and to inspect and supervise the installation of a pipe culvert

Course Description: Course covers placement and testing of earth embankments. Student learns techniques to properly excavate, place and backfill a pipe to be used as a storm sewer or pipe culvert. Course also shows how to select appropriately sized storm sewer by properly calculating runoff, selecting number and location of inlets determining grade of gutters and storm sewer.

Credit Recommendation: Three (3) semester hours at the lower division associate/ baccalaureate degree level in Highway Drainage Facilities

Effective Date of Evaluation: September 1972-present

LANDSCAPING AND EROSION CONTROL

Location: Illinois Department of Transportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 52 hours (6 & ½ days)

Evaluation Date: October 31-November 1, 1977

Goal: Prepares student for supervision and inspection of landscaping and erosion control projects

Course Description: Reviews procedures used in clearing operations, seed bed preparation and placement of seed, sod or other plant materials. Course covers identification, use and methods of handling common plant materials. Explains techniques for using and storing pesticides and fertilizers. Inspection of installation of auxiliary erosion control devices is also discussed. Student shown how to calculate and document pay quantities.

Credit Recommendation: Two (2) semester hours at the lower division associate/baccalaureate level in Landscaping and Erosion Control

Effective Date of Evaluation: September 1972-present

MATHEMATICS (BASIC)

Location: Illinois Department of TRansportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 68 hours (8 & ½ days)

Evaluation Date: October 31-November 1, 1977

Goal: Provides a solid base in daily application of mathematics in the technical field by developing competence up to and including basic trigonometry.

Course Description: Begins with a review of basic arithmetic, progressing through area and volume calculations and basic trigonometry used in pay quantity calculation and surveying. This course provides a foundation for higher level mathematics courses.

Credit Recommendation: Equivalent to basic mathematics at a community college. Not to be recognized as mathematics credit for technical level programs.

Effective Date of Evaluation: September 1972-present

PAVEMENT CONSTRUCTION

Location: Illinois Department of TRansportation
2300 Dirksen Memorial Drive
Springfield, ILL 62764

Length: 64 hours (8 days)

Evaluation Date: October 31-November 1, 1977

Goal: Prepares student for supervision and inspection of all phases of pavement construction and reconstruction

Course Description: Explains procedures to prepare subgrade and to place and compact bituminous concrete mixes for subbase, pavement and stabilized shoulders. It prepares student to perform air, slump and strength tests for concrete, and explains proper curing procedures. Covers placement and function of reinforcement, joints and anchors, and shows student how to determine pavement thickness, test surface smoothness and document pay quantities.

Credit Recommendation: Three (3) hours of lower division semester credits at the associate/baccalaureate level in Pavement Construction

Effective Date of Evaluation: September 1972-present

TRANSPORTATION, ILLINOIS DEPARTMENT OF
TECHNICAL DEVELOPMENT PROGRAM

BRIDGE AND CULVERT HYDRAULICS (T-15)

Location: Illinois Department of Transportation
Springfield, Illinois

Length: 24 hours (3 days)

Evaluation Date: March 10, 1978

Goal: Ability to determine design discharge for bridge or culvert; select culvert location, most economical size, and appropriate hydraulic design constraints.

Course Description: Determines design discharge for bridge or culvert; determine desig normal depth, maximum velocity at the bridge backwater for bridge opening. Selection methods for culvert location and drainage area, conformity to Illinois Drainage Law. Determines most economical culvert size to fit design criteria standards and improved inlet culverts. Selecting appropriate hydraulic design bridge and culvert constraints.

Credit Recommendation: In the lower division associate degree category, 2 semester hours in Bridge and Culvert Hydraulics.

Effective Date of Evaluation: September 1972-present.

FUNDAMENTALS OF PAVEMENT CONSTRUCTION (T-11, T-12, T-13)

Location: Illinois Department of Transportation
Springfield, Illinois

Length: 52 hours (6 1/2 days)

Evaluation Date: March 10, 1978

Goal: To train technical supervisors to detect engineering problems that experienced engineers detect; solve those problems; and obtain assistance in solving other problems.

Course Description: Typical problems and their solutions in earthwork construction and drainage structures. Engineering problems with portland cement concrete pavements. Engineering problems in rehabilitation of pavements and bridges encountered by experience engineers.

Credit Recommendation: In the upper division baccalaureate degree category, 3 semester hours in Fundamentals of Pavement Construction.

Effective Date of Evaluation: September 1972-present.

HIGHWAY ENGINEERING ECONOMY (T-14)

Location: Illinois Department of Transportation
Springfield, Illinois

Length: 24 hours (3 days)

Evaluation Date: March 10, 1978

Goal: To create an awareness that economic analysis is not wholly scientific, but has more value when combined with professional judgement.

Course Description: Reviews time value of money through development of commonly used interest formulas for a single period, especially on a uniform annual series basis. Adequate time given to mathematical analysis to determine "present worth" of various solutions followed by selection of best alternative.

Credit Recommendation: In the lower division associate degree category, 2 semester hours in Highway Engineering Economy.

Effective Date of Evaluation: September 1972-present.

HIGHWAY STRUCTURES (T-10, T-11)

Location: Illinois Department of Transportation
Springfield, Illinois

Length: 36 hours (4 1/2 days)

Evaluation Date: March 10, 1978

Goal: To detect engineering problems in bridges, retaining structures and recognize those beyond scope of immediate knowledge.

Course Description: Engineering problems detected in bridges or retaining structures Design principles of earthwork and small drainage structures taught. Typical problems identified and corrected of such construction. Complex problems beyond scope of knowledg recognized.

Credit Recommendation: In the lower division associate degree category, 3 semester hours in Highway Structures.

Effective Date of Evaluation: September 1972-present.

PAVEMENT DESIGN AND REHABILITATION (T-12, T-13)

Location:	Illinois Department of Transportation Springfield, Illinois
Length:	32 hours (4 days)
Evaluation Date:	March 10, 1978
Goal:	To solve engineering problems that experienced engineers would detect and to obtain assistance in solving other problems.

Course Description: Portland cement concrete problems presented, solutions discussed. Engineering problems in pavements and bridges rehabilitation that experienced engineers would detect presented and instances when assistance must be obtained in solving other problems discussed.

Credit Recommendation: In the lower division associate degree category, 3 semester hours in Pavement Design and Rehabilitation.

Effective Date of Evaluation: September 1972-present.

MINES & MINERALS, ILLINOIS DEPARTMENT OF

COAL MINING TRAINING PROGRAM

FIRST AID

Location: Illinois Department of Mines & Minerals
Benton Rescue Station, Benton, Illinois

Length: 10 hours (3 weeks)

Evaluation Date: April 5, 1978

Goal: To provide: basic first aid training for use in an emergency until professional help arrives; practice of techniques used in various emergency situations. To prepare for certification meeting state and federal minimum requirements as specified by the Mine Safety Health Administration (MSHA).

Course Description: Provides general knowledge in artificial respiration, control of bleeding, physical shock, wounds and burns, dislocations and fractures, and the transportation of injured persons. The safety of mines is stressed as well as the safety of equipment.

Credit Recommendation: In the lower division associate degree level, up to 1 semester hour of variable credit.

Effective Date of Evaluation: November 1971-present.

HOISTING ENGINEERING

Location: Illinois Department of Mines & Minerals
Benton Rescue Station, Benton, Illinois

Length: 42 hours (3 weeks; 12 hrs. class, 30 hrs. laboratory in field)

Evaluation Date: April 5, 1978

Goal: To provide training in electrical hoisting and operation of hoisting equipment at mine site. To prepare participants to take state examination for licensing as Mine Hoisting Engineer.

Course Description: Prerequisite of 2 year's experience with electrical hoisting equipment. Covers such areas as signals, laws and regulations (state and federal), cages and other electrical hoisting equipment for miners and materials. Studies basic information on AC & DC electrical motors, switches and controls and proper applications of these at mines. Standard and emergency operational procedures discussed.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 2 semester hours credit in Hoisting Engineering.

Effective Date of Evaluation: November 1971-present.

PRACTICAL MINING (WITH MODIFIED MINE RESCUE)

Location: Illinois Department of Mines & Minerals
Benton Rescue Station, Benton, Illinois

Length: 42 hours (10 weeks)

Evaluation Date: April 5, 1978

Goal: To prepare miner for state certification as a Mine Manager and Mine Examiner. Prerequisite of 4 years experience underground.

Course Description: Covers Illinois mining laws, terminology, definitions and formulae required of examiners & managers. Studies practical knowledge of coal mining, ventilation and its measurement, gas detection, safety and emergency procedures. Duties and responsibilities of examiners and managers explained and Modified Mine Rescue procedures mastered.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 2 semester hours in Practical Mining. (Note: As of October 26, 1978 Slope and Shaft Sinking will be combined with Practical Mining. As of that date 3 semester hours will be recommended.)

Effective Date of Evaluation: November 1971-present.

SLOPE AND SHAFT SINKING

Location: Illinois Department of Mines & Minerals
Benton Rescue Station, Benton, Illinois

Length: 18 hours (3 weeks)

Evaluation Date: April 5, 1978

Goal: To prepare personnel to supervise construction of mine shafts and/or slopes and to insure safety of personnel under their direction. To provide training necessary to meet Mine Safety Health Administration (MSHA) guidelines as well as those of the state of Illinois.

Course Description: Prerequisite is 2 years experience in Slope and Shaft Sinking and possession of federal face papers. Covers procedures and equipment used; an analysis of accidents, hazards, and safeguards to prevent them in machinery, excavation equipment, ventilation, concreting, gas detection, electrical systems, and explosives. State laws concerning operations necessary to open a mine are studied.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 1 semester hour in Slope and Shaft Sinking.

Effective Date of Evaluation: November 1971-present.

SURFACE MINING

Location: Illinois Department of Mines & Minerals
Benton Rescue Station, Benton, Illinois

Length: 18 hours (3 weeks)

Evaluation Date: April 5, 1978

Goal: To provide basic working knowledge of: state and federal surface mining laws and regulations; safety hazards, safe working procedures. To prepare participants for state examination for surface mine management papers.

Course Description: Two years surface mining experience prerequisite. Covers general areas such as removal of overburden, ground control, line production, maps, Mine Environmental Safety Act (MESA) and E.P.A. regulations. Regulations on use of electrical equipment such as cables, high and low voltage distribution systems. Requirements for safe operation of mechanical equipment studied. Haulage systems, use of explosives and reclamation requirements also discussed.

Credit Recommendation: In the lower division baccalaureate/associate degree level, 1 semester hour credit in Surface Mining.

Effective Date of Evaluation: April 1977-present.

OFFICE OF THE STATE
FIRE MARSHAL
FIREFIGHTING PROGRAM

CERTIFIED FIRE FIGHTER I

Location: Office of the State Fire Marshal
Division of Personnel, Standards and Education
Springfield, Illinois 62701

Length: 150 contact hours (100 classroom, 50 laboratory)

Evaluation Date: July 20, 1978

Goal: To prepare the firefighter to perform all the skills and possess the knowledge at the levels identified in the State Training and Certification program for a State Certified Fire Fighter I.

Course Description: Will contain fundamental elements of: Orientation; Fire Science; Extinguishers and Agents; Small Tools; Communication; Ropes and Knots; Breathing Equipment; Ladders; Hose; Water Supply; Fire Streams; Installed Fire Detection Alarm and Extinguisher systems; Forcible Entry; Ventilation; Rescue; Salvage and Overhaul; Fire Prevention; Personal Safety; Apparatus; First Aid; Arson; Law; Fire Suppression; Pre-fire Planning; Conflagrations; Aircraft Fire Protection; Records and Reports; Specialized Equipment and Techniques.

Credit Recommendation: At the lower division baccalaureate/associate degree level, up to 5 semester hours in Fire Science (dependent upon program of the granting institution).

Effective Date of Evaluation: January 1, 1979.

CERTIFIED FIRE FIGHTER II

Location: Office of the State Fire Marshal
Division of Personnel, Standards and Education
Springfield, Illinois 62701

Length: 300 hours (200 classroom, 100 laboratory)

Evaluation Date: July 20, 1978

Goal: To prepare the firefighter to perform all the skills and possess the knowledge at the levels identified in the State Training and Certification program for a State Certified Fire Fighter II.

Course Description: Will contain advanced elements of: Orientation; Fire Science; Extinguishers and Agents; Small Tools; Communication; Ropes and Knots; Breathing Equipment; Ladders; Hose, Water Supply; Fire Streams; Installed Fire Detection Alarm and Extinguisher Systems; Forcible Entry; Ventilation; Rescue; Salvage and Overhaul; Fire Prevention; Personal Safety; Apparatus; First Aid Arson; Law; Fire Suppression; Pre-fire Planning; Conflagrations; Aircraft Fire Protection; Records and Reports; Specialized Equipment and Techniques.

Credit Recommendation: At the lower division baccalaureate/associate degree level, up to 15 semester hours in Fire Science (less any credit previously granted for Fire Fighter I).

Effective Date of Evaluation: January 1, 1979.

CERTIFIED FIRE FIGHTER III

Location: Office of the State Fire Marshal
Division of Personnel, Standards and Education
Springfield, Illinois 62701

Length: 600 hours (400 classroom, 200 laboratory)

Evaluation Date: July 20, 1978

Goal: To prepare the firefighter at the highest level of proficiency to be able to perform all the skills and possess all the knowledge at the levels identified in the State Training and Certification program for an Advanced Certified Fire Fighter III.

Course Description: Will incorporate identification, evaluation, and analysis of advanced elements of: Orientation; Fire Science; Extinguishers and Agents; Small Tools; Communication; Ropes and Knots; Breathing Equipment; Ladders; Hose; Water Supply; Fire Streams; Installed Fire Detection Alarm and Extinguisher Systems; Forcible Entry; Ventilation; Rescue; Salvage and Overhaul; Fire Prevention; Personal Safety; Apparatus; First Aid; Arson; Law; Fire Suppression; Pre-fire Planning; Conflagrations; Aircraft Fire Protection; Records and Reports; Specialized Equipment.

Credit Recommendation: At the lower baccalaureate/associate degree level, up to 35 semester hours (less any credit previously granted for Fire Fighter I or Fire Fighter II).

Effective Date of Evaluation: January 1, 1979.

CERTIFIED AIRPORT FIGHTER

Location: Office of the State Fire Marshal
Division of Personnel, Standards and Education
Springfield, Illinois 62701

Length: 144 contact hours (96 classroom, 48 laboratory)

Evaluation Date: August 14, 1978

Goal: To provide advanced, specialized airport firefighting training for already proficient fire fighters.

Course Description: Will incorporate identification, evaluation, analysis, and administration of advanced elements of: Aircraft Types, Engines, and Systems; Apparatus and Equipment; Airfield Operations; Planning and Communication; Aircraft Firefighting and Rescue Operations; Practical Applications of Aircraft Firefighting.

Credit Recommendation: At the lower division baccalaureate/associate degree 6 semester hours.

Effective Date of Evaluation: January 1, 1979

CERTIFIED FIRE APPRATUS ENGINEER (FIREFIGHTER APPARATUS DRIVER & OPERATOR (FADO)

Location: Office of the State Fire Marshal
Division of Personnel, Standards and Education
Springfield, Illinois 62701

Length: 96 contact hours (64 classroom, 32 laboratory)

Evaluation Date: August 14, 1978

Goal: To provide qualified personnel with technical knowledge in the areas of hydraulics, pumps, stream development, and operation of apparatus at the levels identified for certification as Fire Apparatus Engineer.

Course Description: Will contain fundamental and advanced elements of: Orientation; Pumps; Pump Controls; Pump Tests; Gallons per minute Parameters; Elements of Friction Loss; Siamese Operations; Wye Operations, Relay Pumping and support of Sprinkler Systems; Supply and Support of Standpipe Operations; Supply of Miscellaneous Equipment; Trouble Shooting Apparatus; Driving laws/Emergency Vehicles; Spotting Apparatus; Preventive Maintenance; Records and Reports.

Credit Recommendation: At the lower division baccalaureate/associate degree level 6 semester hours in Fire Apparatus Engineer.

Effective Date of Evaluation: January 1, 1979

PADUCAH REGIONAL VOCATIONAL CENTER

Carpentry Program

READING BLUEPRINTS & PREPARING SPECIFICATIONS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 14 Modules

Evaluation Date: August 15, 1978

Goal: To introduce students to the theory and procedures of blueprint reading, preparation and interpretation of codes, specifications and materials take off.

Course Description: These modules will prepare students to interpret and use blueprints, prepare working and pictorial drawing by the freehand method, set up and adjust the builders transit, locate and identify plot plan information, interpret and apply for building permits and determine material take off using building plans.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

BUILDING SITE PREPARATION & BUILDING MATERIALS IDENTIFICATION

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 9 Modules

Evaluation Date: August 15, 1978

Goal: To provide knowledge in selecting and using building materials and preparation of the building site.

Course Description: These modules will prepare students through theoretical and practical application, to locate property and boundary lines, square and level the building site and identification and care of building materials.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 1 semester hour of credit.

Effective Date of Evaluation: August, 1973 - Present

HAND AND POWER TOOLS USE

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 22 Modules

Evaluation Date: August 15, 1978

Goal: To prepare the student to identify and safely use the tools and machines commonly associated with carpentry occupations.

Course Description: These modules will provide related and practical application in the care and use of equipment designed to cut, drill level, plane, measure, shape, route, and glue. Provision is made to include job safety requirements.

Credit Recommendation: At the lower division baccalaureate/associate level 3 semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

BUILDING & INSTALLING FOUNDATION FORMS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 12 Modules

Evaluation Date: August 15, 1978

Goal: To prepare students in the techniques to properly construct and install foundation forms.

Course Description: These modules will provide related and practical application in designing footings, calculating materials, setting anchor bolts, constructing wall forms, constructing column and pier forms, stair forms and installing vapor barriers and water seals.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 1 semester hour of credit.

Effective Date of Evaluation: August, 1973 - Present

CUTTING & INSTALLING ROUGH FRAMING

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 19 Modules

Evaluation Date: August 15, 1978

Goal: To develop in students the competencies necessary to cut and install rough framing.

Course Description: These modules are designed to provide the experiences necessary to develop student competencies in identifying framing components, installing girders, columns, sills, floor joists, bridging, wall sheathing, ceiling frames, framing of wall openings, exterior walls, special partitions, stairs and masonry construction.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

LAYING OUT, CUTTING AND INSTALLING ROOF COMPONENTS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 15 Modules

Evaluation Date: August 15, 1978

Goal: To develop student competencies in layout, cutting and installation of roof components.

Course Description: These modules are designed to develop competencies in planning roofs, roof trusses, gables, installation of purlins, collar ties, knee walls, roof flashing, sheathing and shingles. These units also include framing unequal pitch roofs, special roof layouts and installation of tail and jack rafters.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

CUTTING & INSTALLING INTERIOR AND EXTERIOR FINISH

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 27 Modules

Evaluation Date: August 15, 1978

Goal: To develop student competencies in cutting and installing interior and exterior finish.

Course Description: These modules are designed to develop competencies through practical and theoretical experiences in building cornices, installing wood siding dry wall, paneling, cutting and installing moulding, cutting irregular shapes; installing trim, frames, louvers, garage doors, storm windows; installing plaster lathe and grounds, door jambs, doors, laying flooring and installing metal units. These units also include construction of special built-in units and cabinet work.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

PADUCAH REGIONAL VOCATIONAL CENTER

Drafting Program

DRAFTING THEORY

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 940 hours

Evaluation Date: August 15, 1978

Goal: To provide the fundamental knowledge of drafting principles; to give students opportunity to develop skills in various facets of the field; to develop an appreciation of good design and workmanship.

Course Description: The course is designed to give student knowledge and familiarization with drafting principles; lettering geometric construction; freehand sketching; multiview (orthographic) projection; dimensioning and tolerances; sectioning and convention practices; detail and assembly drawings, blueprinting, inking, and pictorials.

Credit Recommendation: In the lower division baccalaureate/associate degree level, three (3) semester hours of credit.

Effective Date of Evaluation: August, 1973 - Present

MACHINE DRAFTING

Location: Region I Vocational Center
Paducah, Kentucky

Length: 300 hours

Evaluation Date: August 15, 1978

Goal: To provide the principles, knowledge,and skills necessary for competence in machine drafting.

Course Description: The course includes work in: threads, fasteners, and springs; gearing and cams; design and working drawings.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours in Machine Drafting.

Effective Date of Evaluation: August, 1973 - Present

ARCHITECTURAL DRAFTING

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 465 hours

Evaluation Date: August 15, 1978

Goal: To provide the principles, knowledge, and skills necessary for competence in architectural drafting.

Course Description: The course includes: the architectural techniques, sketching; area planning; floor plans and elevations; technical units.

Credit Recommednation: At the lower division baccalaureate/associate degree level, 3 semester hours in Architectural Drafting.

Effective Date of Evaluation: August, 1973 - Present.

ENGINEERING DRAFTING

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 400 hours

Evaluation Date: August 15, 1978

Goal: To provide the principles, knowledge and skills necessary for competence in Engineering Drafting.

Course Description: The course supplies the student the knowledge and skills in structural engineering, electrical engineering, plumbing and piping, heat and air conditioning, civil engineering, welding, and electronics.

Credit Recommendation: At the lower division baccalaureate/associate degree level, 3 semester hours in Engineering Drafting.

Effective Date of Evaluation: August, 1973 - Present.

PADUCAH REGIONAL VOCATIONAL CENTER

Highway Technology Program

HIGHWAY MATERIALS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 662 hours (96 class, 189 laboratory, 177 field work)

Evaluation Date: August 15, 1978

Goal: To develop knowledge of the problems and methods involved in: materials and quality control, surface water runoff as it influences design and construction, and drainage and drainage surveys.

Course Description: This course is designed to introduce the student to the problems and procedures of sampling, inspecting, and testing materials used in the construction field. Included in this course are procedures in testing, testing equipment, aggregates, concrete, soils, and bituminous materials, as well as some of the problems of soil, soil water, and surface water runoff involved in highway and similar constructions. It is intended to provide methods for the technician to use in his application of information supplied by the engineer.

Credit Recommendation: At the lower division baccalaureate/associate degree level, four (4) semester hours credit in Highway Materials.

Effective Date of Evaluation: August, 1973 - Present

SURVEYING

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 756 hours (234 class, 174 laboratory, 348 field work)

Evaluation Date: August 15, 1978

Goal: To introduce students to the theory and procedures leveling, traversing, simple curves, and other special problems encountered in surveying.

Course Description: This course is designed to introduce students to surveying instruments, methods and procedures. Considerable time is utilized in becoming familiar with the use of common instruments used for measuring and layout distance differences in elevations, direction and angles. The application of fundamental practices to route type surveys is included.

Credit Recommendation: At the lower division baccalaureate/associate degree level, six (6) semester hours of credit in Surveying.

Effective Date of Evaluation: August, 1973 - Present

TECHNICAL DRAFTING

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 526 hours (138 class, 388 laboratory)

Evaluation Date: August 15, 1978

Goal: To develop the knowledge, skills and appreciation needed to function effectively as a drafter.

Course Description: The course is designed to give student knowledge and familiarization with drafting principles; lettering geometric construction; freehand sketching; multiview (orthographic) projection; dimensioning and tolerances; sectioning and convention practices; detail and assembly drawings, blueprinting, inking and pictorials.

Credit Recommendation: In the lower division baccalaureate/associate degree level, six (6) semester hours of credit in Technical Drafting.

Effective Date of Evaluation: August, 1973 - Present

COMMUNICATION SKILLS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 330 hours (93 class, 237 laboratory)

Evaluation Date: August 15, 1978

Goal: To develop ability of student to organize and express ideas effectively; to appreciate and relate occupation to surroundings and to the community; to achieve a better understanding of legal responsibilities.

Course Description: The course is designed to improve the students ability to communicate effectively in his/her occupation.

Credit Recommendation: In the lower division baccalaureate/associate degree level, one (1) credit hour of Communication Skills.

Effective Date of Evaluation: August, 1973 - Present

TECHNICAL MATHEMATICS

Location: Region I Vocational Center
Paducah, Kentucky 42001

Length: 366 hours (class)

Evaluation Date: August 15, 1978

Goal: To apply principles of mathematics to technological fields.

Course Description: This course combines basic algebra with plane trigonometry. The student will become familiar with solving equations in one unknown, the use of the calculator in solving various mathematical problems, exponents and radicals, right angle trigonometry, logarithms, ratio and proportion, the theories of forces and moments.

Credit Recommendation: At the lower division baccalaureate/associate degree level, three (3) semester hours of credit in Basic Applied Mathematics.

Effective Date of Evaluation: August, 1973 - Present

APPENDIX A

EVALUATORS

EVALUATORS

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Appendix D

Preliminary Survey Results

SIU

Southern Illinois
University at Carbondale - 1009 W. Mill
Carbondale, Illinois 62901

School of Technical Careers

August 30, 1978

Dear Registrar:

In early June, you responded to a survey conducted by the Project for the Evaluation of Noncollegiate Instruction (PENSI). You had, at that time, requested a report of the results.

A preliminary analysis of the data yielded from that survey is included. The data are descriptive, and the conclusions are tentative. With those cautions, we want to share the information with you.

We believe the survey has demonstrated the willingness of Illinois colleges and universities to respond to noncollegiate learning. We appreciate your support.

Sincerely,

John E. Moscowitz

John E. Moscowitz
Project Director

Sonja A. Eveslage

Sonja A. Eveslage
Associate Director

JEM/SAE/ag

AWARDING OF NON COLLEGIATE CREDIT BY ILLINOIS COLLEGES AND UNIVERSITIES

The survey conducted by the Project for the Evaluation of Noncollegiate Sponsored Instruction (PENSI) of the School of Technical Careers at SIU-C was designed to assess (1) the extent to which Illinois colleges and universities accept various kinds of credit for noncollegiate learning experiences, especially credits awarded for agency, industry and/or union sponsored training programs, and (2) the conditions of awarding credits for these agency, industry and/or union sponsored training programs.

The survey was pretested at six Illinois institutions, then was distributed in May, 1978, to the remaining 71 senior institutions and 57 community colleges in the state. The data reported here are based on responses from 75 institutions, representing 55% of the 136 surveys distributed.

Description of Respondents

Of these responding institutions, 42 (56%) are 2 year colleges, 31 of which are public and 11 private (see Table 1). These 42 two-year schools range in size from a reported FTE of 487 to an FTE of 12,600, with a median enrollment of 2,470 FTE's. Thirteen (17%) four-year private schools responded in addition to 20 public and private graduate (27%) schools. The 33 four-year and graduate shcools (senior colleges) range in size from a reported enrollment of 120 FTE's to 9529 FTE's. Their median enrollment is 1,127 FTE's.

Table 1

Questionnaire Respondents by Type and Level of School

	Type of School			
Level	Public	Private	Total	Percent of Total
2-year	31	11	42	56%
4-year	--	13	13	17%
Graduate	7	13	20	27%
TOTAL	38	37	75	100%

Acceptance of Noncollegiate Credit

Of the 75 schools responding, 68 (91%) award credits for learning gained outside the traditional classroom setting. These credits are awarded for learning gained through formal training programs as well as less formal life experiences.

Specifically, the survey queried respondents about the use of CLEP, military service credit recommendations regarding noncollegiate training programs offered by industries, public agencies, or unions, proprietary school training, and assessment of learning from life/work experiences. Respondents also identified proficiency or challenge examinations as another frequently used method of assessing credit. Table 2 details the acceptance of each of these kinds of credit by level of institution.

Table 2

Acceptance of Noncollegiate
Credit by Post-Secondary Institutions

	Type of School					
Assessment Mode	Community College		4-year	Graduate		Total
	Public	Private	Private	Public	Private	
CLEP	30/31*	9/11	12/13	6/7	11/13	68/75 (91%)
Proficiency Review or Examination	14/31	7/11	5/13	3/7	4/13	47/75 (44%)
Military Service/ Training	28/31	9/11	11/13	7/7	11/13	66/75 (88%)
Agency/Industrial/ Union Training	20/31	4/11	3/13	3/7	5/13	35/75 (47%)
Proprietary School Training	23/31	8/11	7/13	5/7	4/13	47/75 (63%)
Assessment of Learning from Life/Work Experience	8/31	3/11	1/13	1/7	1/13	14/75 (19%)

* Read: 30 out of 31 public 2-year colleges accept CLEP

Table 2 indicates the widespread recognition of learning gained outside the traditional academic setting. The overall acceptance appears to be related to the ease of administering the assessment process and/or the length of time the process has been in existence. CLEP tests appear to be the most acceptable kind of assessment, with 91% of respondent schools awarding credit.

The CLEP tests are standardized -- a form familiar to educational institutions -- and they are regularly administered at educational testing sites. Another kind of formal testing used by respondents is the proficiency or challenge examination. Forty-four percent of the institutions report using this form of assessment. The lower percentage of use may reflect the greater difficulty involved in developing in-house examinations. On the other hand, the lower percentage responding may reflect only the fact that respondents volunteered the information rather than replying to a specific question.

The second variety of assessment mode relies on the use of expert evaluation of programs as a means of recommending college-level credit. The appraisal of both military training programs and those offered by industries, agencies or unions have been evaluated on this basis. A major difference in the use of credits from these two sources appears to be related to the length of time the assessment process has been in existence.

Credit for training gained in the Military Service, a process operating since 1945, is used by the second greatest number of respondents (88%). In contrast, the acceptance of credit recommendations is much lower for other kinds of noncollegiate sponsored instruction, with 47% of the responding institutions granting credits. Since expert evaluation of non-military sponsored programs has been operational only since 1974, the lower acceptance rate may reflect only the process's shorter history.

Proprietary school credit is an additional type of noncollegiate training accepted. The formal instructional process and reporting of learning is akin to that at recognized academic institutions. Sixty-three percent of the responding institutions accept noncollegiate credit from proprietary operations.

Finally, the assessment mode that strays furthest from traditional academic approaches is the assessment of learning through life/work experiences such as that done by institutions belonging to the Council for the Advancement of Experiental Learning (CAEL). Fourteen of 75 or 19% of the responding institutions accept such credit.

Approaches Towards Awarding Credit for Agency/Industry or Union Training

In addition to examining the extent of acceptance of credit for noncollegiate experiences, the survey raised questions about the ways in which the institutions approach the awarding of those credits. This preliminary analysis focuses on the means used to evaluate formal training programs conducted by agencies, industries, or unions.

The reporting of credit recommendations for agency, industry, or union programs evaluated is similar to the reporting of credit recommendations for military courses. At least two agencies that conduct these kinds of evaluations -- the American Council on Education (ACE) and PENSI -- publish guides to their recommendations.

It was expected that the respective guides would be a major resource for those institutions accepting credit from post-secondary training programs.

To reiterate the finding related to credit acceptance, the data show that 47% of the survey respondents accept credit for agency, industry, or union training programs (see Table 3). However, individual institutions judge those credits in varying ways. The single most frequent approach towards awarding credit for formal noncollegiate sponsored programs is internal faculty evaluations. Twenty of the 35 respondents (57%) who award credit for the above experiences use this approach.

Table 3

Awarding of Credit for Agency,
Industrial-Union Sponsored
Training Programs

	Type of School					
	Community College		4-year	Graduate		Total
	Public	Private	Private	Public	Private	
Total	20/31	4/11	3/13	3/7	5/13	35/75 (47%)
Internal Evaluation	15/20	2/4	---	---	3/5	20/75 (27%)
ACE/NY State Guide	3/20	---	1/3	2/3	3/5	9/75 (12%)
PENSI	1/20	1/4	2/3	1/3	---	5/75 (7%)
Other	1/20	---	3/3	---	---	4/75 (5%)

Fourteen, which is 19% of the total or 40% of the favorable responses, indicate they use one or both of the guides. Significantly, use of internal evaluation outweighs use of either or both of the guides. At least two interpretations seem plausible. First, and most obvious, is that guides have been available only a short time. The first ACE/New York State guide was published in 1976. The PENSI Project Evaluation Guide was first distributed early in 1978. A second possibility is that the scope of either or both of the guides is too limited in its contents, e.g. the specific program an individual has experienced may not yet have been evaluated for credit recommendations. Furthermore, multiple responses occurred, and guide users may also include faculty evaluation as a companion to the credit recommendation guide.

Conclusions

Perhaps the most significant finding of the survey is that credits earned from agency, industry, or union training programs are being accepted at a favorable rate when compared to the acceptance of older noncollegiate assessment mechanisms such as CLEP or military programs. Public community colleges appear to be most accepting of this kind of credit, a pattern that is understandable since many of the in-house training programs evaluated have been lower division general education or technical programs. The acceptance of these credits, however, depends primarily on internal faculty review rather than use of a standardized guide.

Appendix E

Credit Recommendations for Evaluated Courses

APPENDIX E CREDIT RECOMMENDATIONS FOR EVALUATED COURSES

I. CETA Training Programs

Agency	Course Title	Credits
Career Development Center, Ordill, Illinois	Automobile Body Repair Sequence	
	"Introduction to Automobile Body Repair"	6*
	"Advanced Automobile Body Repair"	14
		20 (sub total)
	Food Service Sequence	
	"Introductory Food Preparation"	6
		6 (sub total)
	Industrial Maintenance Sequence	
	"Air Conditioning and Refrigerant Systems"	4
	"Basic Industrial Electricity"	4
	"Electrical Generators & Motors Maintenance & Repair"	4
	"Furnace Installation & Repair"	3
	"Piping and Plumbing Fixtures"	2
		17 (sub total)
	Machine Tool Sequence	
	"Theory of Machine Tool Operations I"	3
	"Theory of Machine Tool Operations II"	3
	"Tool and Manufacturing Laboratory I"	7
	"Tool and Manufacturing Laboratory II"	7
	"Tool Steel Metallurgy"	2
		22 (sub total)
	Secretarial Sequence	
	"Bookkeeping"	3
	"Business Mathematics"	3
	"Office Practice"	3
	"Shorthand (Gregg)"	3
	"Shorthand (Stenoscript)"	3
	"Typing Basic"	3
		18 (sub total)

CREDIT RECOMMENDATIONS FOR EVALUATED COURSES

I. CETA Training Programs (Cont'd)

Agency	Course Title	Credits
Career Development Center, Ordill, Illinois	Welding Sequence	
	"Oxyacetylene Welding and Cutting"	3
	"Shielded Metal Arc Welding & Air-Carbon Cutting"	4
		7 (sub total)
		90 TOTAL

* ALL RECOMMENDATIONS ARE IN SEMESTER HOURS AT THE LOWER DIVISION BACCALAUREATE/ASSOCIATE DEGREE LEVEL UNLESS OTHERWISE INDICATED

II. Corporate In-House Training Programs

Corporation	Course Title	Credits
Fiat Allis Training Center, Springfield, Illinois	"Countershaft Transmissions"	1
	"Crawler and Wheel Loader Hydraulic Systems and Components"	1
	"Diesel Engine Reconditioning"	4
	"Diesel Fuel Injection"	4
	"Diesel Fuel Injection (Robert Bosch)"	1
	"Diesel Fuel Injection (Simms & Roosa Master)"	1
	"Engine Systems Problem Techniques"	1
	"Heavy Equipment Diagnostic Techniques"	2
	"Hydraulic Fundamentals, Systems, & Components"	4
	"Naturally Aspirated Diesel Engine Reconditioning"	1
	"Power Transmissions"	4
	"Parts Failure Analysis"	1
	"Scrapers & Graders Hydraulic Systems & Components"	1
	"Transmission, Hydraulic and Steering System Problem Diagnosis"	1
	"Turbochange Diesel Engine Reconditioning"	1
	"Wheel Vehicle Transmissions"	1
		29 TOTAL

CREDIT RECOMMENDATION FOR EVALUATED COURSES

III. Joint Apprenticeship Training Programs

Agency	Course Title	Credits
Joint Apprenticeship Training Committee for the Electrical Industry, West Frankfort,IL.	"Alternating Current Circuits I"	3
	"Alternating Currents Circuits II"	3
	"Basic Static Control"	3
	"Blueprint Reading (Architectural)"	1
	"Commercial Electrical Wiring"	3
	"Construction Safety and O.S.H.A. Codes"	2
	"Direct and Alternating Current Machines"	3
	"Electrical Controls"	6
	"Electrical Wiring Installation Techniques (Residental)"	3
	"Introduction to Direct Currents"	3
	"Introduction to Electricity/Electronics"	3
	"Residental Design"	1
	"Semi-Conductor Fundamentals"	3
	"Solid State Devices"	3
	"Welding-Fundamentals & Industrial Principles"	4
		44 TOTAL

CREDIT RECOMMENDATION FOR EVALUATED COURSES

IV. State of Illinois Agencies

Agency	Course Title	Credits
Illinois Dept. of Conservation, Law Enforcement Program, Springfield, Illinois	"Administration of Criminal Justice with Department of Conservation & Division of Law Enforcement"	1
	"Emergency First Aid"	1
	"Field Training"	4-6
	"Human Relations for Police"	1
	"Investigations"	3
	"Legal Subjects"	3
	"Patrol Procedures"	3
		16-18 TOTAL
Illinois Office of the Fire Marshal-Fire Protection Personnel, Standards, Education Commission Springfield, Illinois	"Certified Fire Fighter I"	5
	"Certified Fire Fighter II"	15 +
	"Certified Fire Fighter III"	35 ++
	"Certified Airport Firefighter"	6
	"Certified Fire Apparatus Engineer"	6
		7 TOTAL
Illinois Bureau of Mines & Minerals, Coal Mining Training Program, Benton, Illinois	"First Aid"	1
	"Hoisting Engineering"	2
	"Practical Mining (with Modified Mine Rescue)"	2
	"Slope & Shaft Sinking"	1
	"Surface Mining"	1
		7 TOTAL
Illinois Department of Transportation, Springfield, Illinois	Specific Task Training Program	
	"Construction Materials"	3
	"Concrete Structures"	3
	"Construction Surveying"	4
	"Highway Drainage Facilities"	3
	"Landscaping and Erosion Control"	2
	"Pavement Construction"	3
		18 (sub-total)

CREDIT RECOMMENDATION FOR EVALUATED COURSES

IV. State of Illinois Agencies (Cont'd)

Agency	Course Title	Credits
Illinois Department of Transportation, Springfield, Illinois	Technical Development Program	
	"Bridge and Culvert Hydraulics"	2
	"Fundamentals of Pavement Construction"	3**
	"Highway Engineering Economy"	2
	"Highway Structures"	3
	"Pavement Design & Rehabilitation	3
		13 (sub total)
		31 TOTAL

+WHEN IN COMBINATION WITH THE CERTIFIED FIRE FIGHTER I PROGRAM

+WHEN IN COMBINATION WITH THE CERTIFIED FIRE FIGHTER II & III PROGRAMS

**IN THE UPPER DIVISION BACCALAUREATE DEGREE CATEGORY

CREDIT RECOMMENDATION FOR EVALUATED COURSES

V. Out-of-State (Kentucky) Vocational Center

Center	Course Title	Credits
Paducah Regional Vocational Center, Paducah, Kentucky	Carpentry Program	
	"Building and Installing Foundation Forms"	1
	"Building Site Preparation & Building Materials Identification	1
	"Cutting & Installing Interior and Exterior Finish"	3
	"Cutting and Installing Rough Framing"	3
	"Hand & Power Tools Use"	3
	"Laying Out, Cutting & Installing Roof Components"	3
	"Reading Blueprints & Preparing Specifications	3
		17 (sub total)
	Drafting Program	
	"Architectural Drafting"	3
	"Drafting Theory"	3
	"Engineering Drafting"	3
	"Machine Drafting"	3
		12 (sub total)
	Highway Technology Program	
	"Communication Skills"	1
	"Highway Materials"	4
	"Surveying"	6
	"Technical Drafting"	6
	"Technical Mathematics"	3
		20 (sub total)
		49 TOTAL
		284 GRAND TOTA

Appendix F

Results of Articulation Agreement Between Paducah Community College and Paducah Vocational Center

TO: Dr. Donald J. Clemens
Dr. James Hennessy
Dr. Robert Spillman
Mr. Ray Brown

FROM: John E. Moscowitz
Sonja A. Eveslage

RE: Articulation Agreement Between Paducah Community College and Paducah Regional Vocational Center

The Paducah Evaluation facilitated by Staff from Southern Illinois University at Carbondale's Project for the Evaluation of Noncollegiate Sponsored Instruction (PENSI) served two goals: (1) to assess the post-secondary credit value of the Highway Technology, Drafting, and Carpentry programs at the Paducah Regional Vocational Center; and (2) to recommend the specific ways in which the three Vocational Center programs under consideration will transfer into PCC's technology majors.

The evaluating team assembled to meet these specific goals was composed of: Dr. Kenneth Winters, Dean of Industrial and Technical Careers, Murray State University; Mr. Ronald Baugh, Program Supervisor, Industrial Education, Bureau of Vocational Education; Mr. William Adams, partner Edmund Cain Construction Company, Murray, Kentucky; and Mr. Robert Hodges, District #1 Highway Engineer, Paducah, Kentucky.

The committee first reviewed each of the separate Vocational Center programs, identified them to be post-secondary, and recommended post-secondary credit. The Highway Technology program was judged equivalent to 20 semester hours of credit at the associate/baccalaureate degree level, the Drafting program equivalent to 12 semester hours and the Carpentry program equivalent to 15 semester hours. (Recommendations in PENSI's standard reporting form are attached.)

This component of the decision process was based on analysis of the various curricula and a comparison of the specific Vocational Center offerings to collegiate programs in general. The varying credit awards consequently reflect the emphases of collegiate programs, and they do not reflect a variation in quality among the programs evaluated.

Beyond making credit recommendations that students can take to any institution to negotiate for credit, the evaluation team looked at the specific ways Paducah Vocational students can apply their training to Paducah Community College programs. The team recognized that the two programs are designed to fill different needs and consequently will not overlap extensively.

From the Highway Technology program the committee recommended that: (a) the communications section transfer as 1 semester hour of elective credit; (b) the technical math component transfer as MAH 151 Applied Mathematics I (3 semester hours); (c) surveying section transfer as 3 semester hours equivalent to CE 100 Plane Surveying or ET-135 Surveying I (Plane); and (4) drafting transfer as ACH 144 Construction Documents and Reproduction I (3 semester hours).

Further, the committee recommended that the drafting program transfer as a total of six semester hours, with blocks I and II (Beginning and Advanced Theory) equivalent to ACH 144 Construction Documents and Reproduction I (3 semester hours). Blocks IV and V (Architectural and Engineering Drafting were recommended to transfer as ACH 244 and Construction Documents and Reproduction II (3 semester hours). Block III - Machine Drafting - is not covered in the PCC program.

The Vocational Center's Carpentry program is competency based and modularized. Again, it is designed to refine specific skills while the PCC Technology programs are more general in nature. In the judgement of the committee, Carpentry students by the end of their first year, would exhibit the knowledge and skills required in ACH 140 Architectural Graphics and Blueprint Reading (3 semester credits).

The specific recommendations appeared to be acceptable to the PCC Staff represented.

ajs

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